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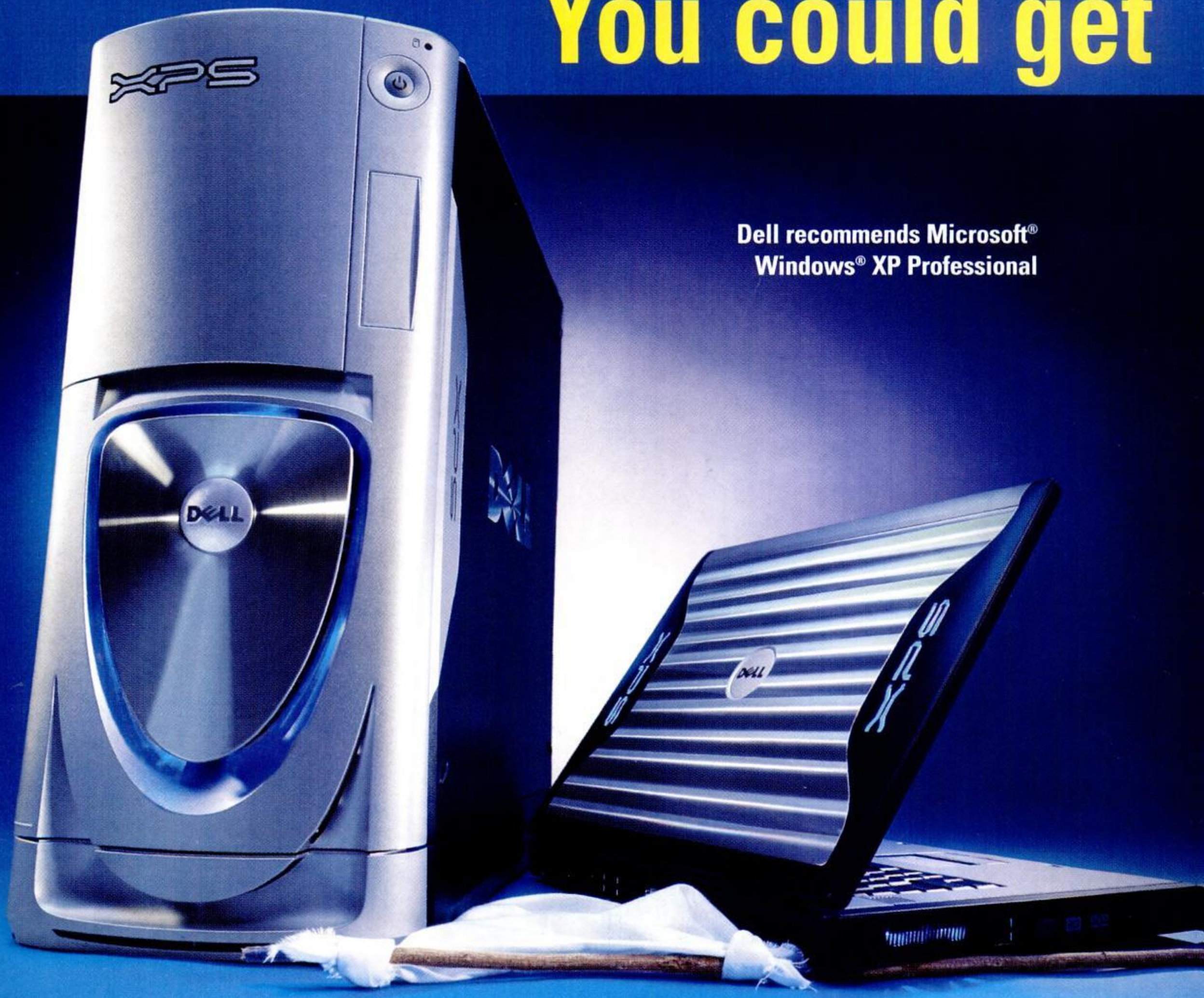

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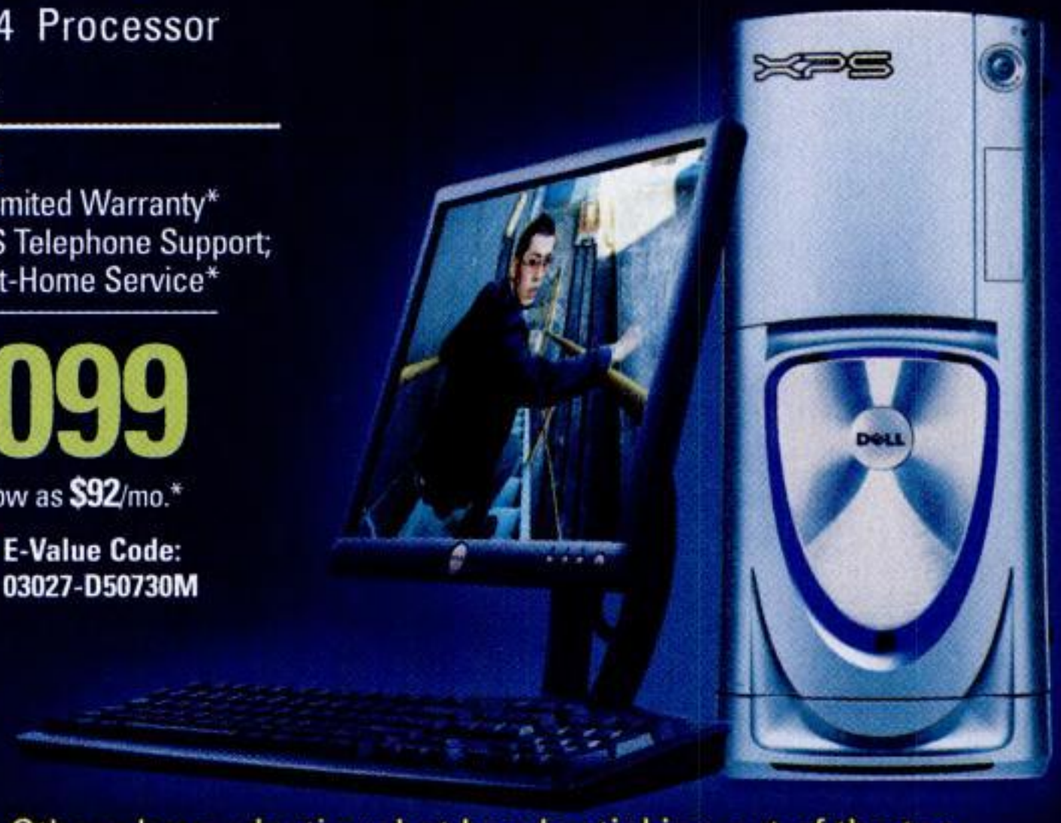

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Release Notes

I Demand iTunes for Movies

For this month's Do-It-Yourself Guide, I spent a long time testing various video ripping and compression utilities, which reminded me of my early experiences ripping my music CDs. Eight years ago, when I made my very first MP3 file, the process was a cast-iron bitch. It required three or four different apps—including a couple of command-line utilities—to rip, encode, and apply ID3 tags to each track. Even worse, it took about 12 hours to rip a single CD at a measly 128kb/s bitrate.

Today, I drop a CD into my computer and *iTunes* rips the entire disc in four minutes flat.

I've ripped every CD in my collection at least twice, either to clear up imperfections or just to record at a higher bitrate. (I'm reasonably certain that 160kb/s MP3s sounded better when 14GB hard drives cost $200.) Every time I re-ripped my CDs, the process has been easier and faster—despite the fact that my collection grows every month. These days I can even use my computer to play games or browse the web while I rip music!

Late last year, I decided it was time to rip my DVD collection, so I started experimenting with different utilities. I tested about a dozen utilities that promised one-click DVD-to-Divx rips, but the experience was eerily similar to the early days of MP3 ripping. It took about five hours to encode a single movie, and everything was difficult, from finding the movie on the DVD to choosing the proper encoding settings.

Dual-core CPUs are poised to take away some of the time-crunch of DVD ripping—our tests show 33 percent faster encodes than a faster single-core CPU can deliver—but that's not enough. The software needs to be more reliable and easier to use.

There's nothing more disappointing than opening your hot-off-the-bit-forge Divx movie and realizing that you inadvertently encoded the French audio track, or that the sound and video are three seconds out of sync. Getting subtitles to work properly on *Kill Bill* took three attempts!

Getting ripping right is just the first step. Ideally, I'd select the content, language, and subtitle options I want in the DVD's menu, then click Rip and record exactly what I selected, directly to Divx, in 45 minutes or an hour. Each MPEG-4-encoded movie would be saved with relevant meta-data—title, director, genre, and year—embedded for easy movie management.

The first application that's able to fulfill all my criteria gets the First Annual Maximum PC Award for Achievement in the Field of Excellence. That's a promise.

—WILL SMITH
will@maximumpc.com

Contents

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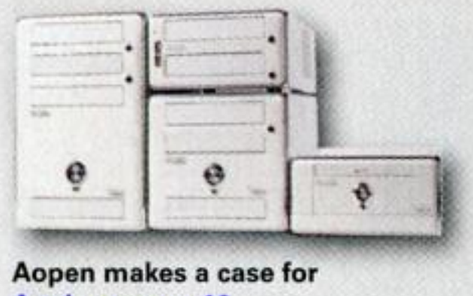
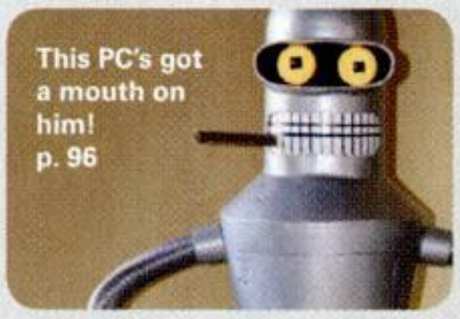


Aopen makes a case for **Apple-envy. p. 16**

Now that's a DVD you don't want **to miss. p. 55**



REGULARS

8 In/Out
You write, we respond

14 Quick Start
Big news, small articles

20 Head2Head
This month: Multi-protocol IM clients

24 WatchDog
Maximum PC takes a bite out of bad gear

58 How To...
This month: Make a DVD menu you can be proud of

62 Ask the Doctor
All your PC problems, solved

66 In the Lab
A behind-the-scenes look at product testing

96 Rig of the Month
It's amazing what a person can do with a PC!

REVIEWS

64 Desktop PC: Dell XPS

66 Water-cooling kit: Asetek WaterChill

68 SLI videocard: Gigabyte GV-3D1

69 Hard drive: Hitachi Deskstar 7K500

70 MP3 players: iRiver H10 5GB; Dell Pocket DJ 5GB; iPod Photo 30GB; Dell DJ 30GB

72 Budget videocards: Leadtek WinFast PX6600 GT TDH Extreme; ATI X800 XL

74 PC enclosures: NZXT Nemesis Elite Edition; Ahanix MCE601

75 PC enclosure: CoolMax XBat ATX

75 Integrated subwoofer: Focal JMlab iCub

76 USB keys: Corsair Flash Voyager; Transcend JetFlash 110

77 Portable video player: PQI mPack P800

GAMING

77 Doom 3: Resurrection of Evil

78 Psychonauts

78 Lego Star Wars

79 Freedom Force vs. the 3rd Reich

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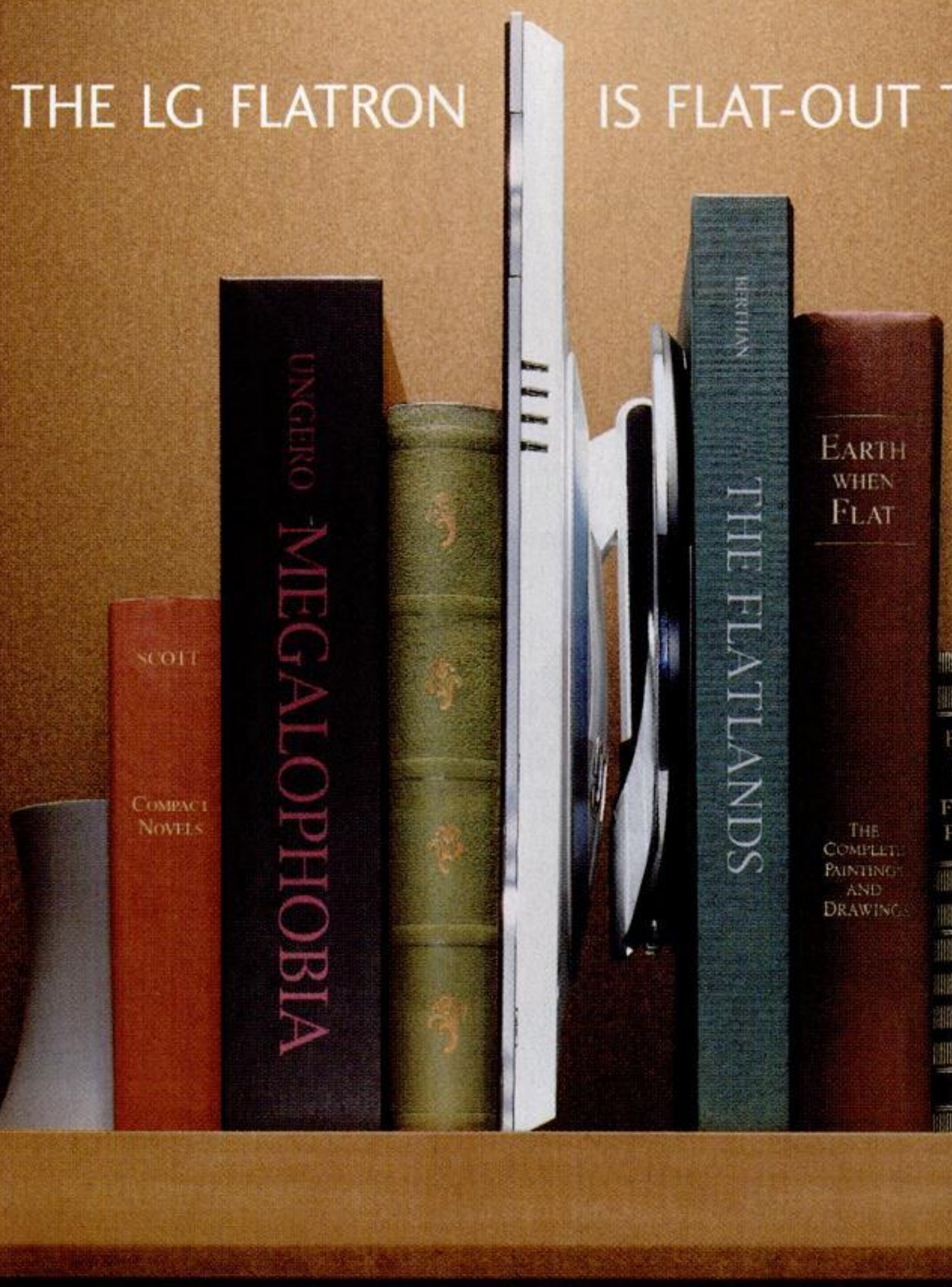

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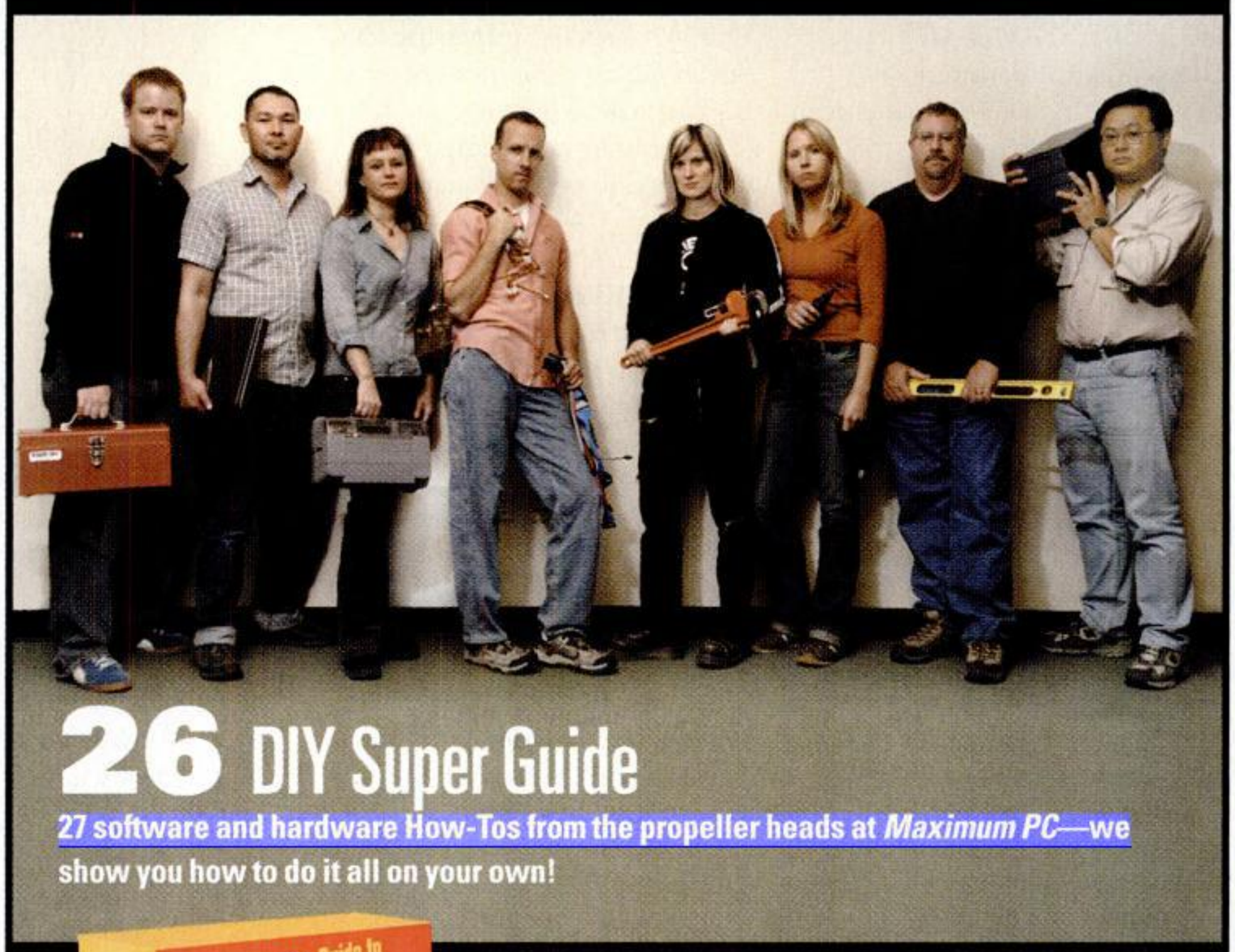
Contents

JULY FEATURES



26 DIY Super Guide
27 software and hardware How-Tos from the propeller heads at *Maximum PC*—we show you how to do it all on your own!

40 64-Bit Windows
The age of 64-bit computing is upon us: Find out how those extra bits will affect your PC experience.

46 Power Portables
Five notebooks that pack desktop power in a portable package go against each other in a ferocious, five-way cage match.

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In/Out

You write, we respond

RID ME OF SPAM-A-LOT

I need an anti-spam product badly, but there are so many out there it's hard to separate the good from the bad. Are there any good free, client-side anti-spam products available?

—CHRIS

EDITOR-IN-CHIEF WILL SMITH RESPONDS: I hate spam too. It might interest you to know that my daily anti-spam regimen has been much reduced since I switched to Mozilla *Thunderbird* (www.mozilla.org) as my e-mail client. Its integrated Bayesian filter works really well, once it's been trained, which takes a couple of weeks. By now, it detects most of my spam, and more importantly, rarely registers any false positives.

If your spam problem is even more severe, you might try using blacklisting software. *SpamPal* (www.spampal.org) pulls info from several spam blacklists and determines whether a message is spam, based on the route it traveled to get to you. By using both the blacklist software and a Bayesian filter, you should be able to solve most of your spam problems.

BURNING FOR HOME

In your June issue, you mentioned the Folding@Home project. I found it more intriguing than SETI@Home, and a lot more worthy of my CPU cycles. So, I joined Team Maximum PC!

I have an Athlon 64 3500+ Socket 939 CPU in my custom system and it has already been burned-in through gaming and video editing. I recently purchased an Alienware Area-51M laptop off eBay, presumably new, and should get it within the week. My question is: Have you ever considered the potential of using this program as a burn-in tool? Would it be wise to do so on my new Alienware laptop? The laptop is a 3.2GHz P4 HT with 1GB of RAM. The program seems to stress my current system to the max if set at 100 percent.

I own a small business on the side, building computer systems. Do you believe it would be useful to use Folding@Home for a 24-hour burn-in on those machines?

—JORDAN M. SHAW

SENIOR EDITOR GORDON MAH UNG RESPONDS: Folding@Home is a truly worthy effort and really not a bad way to "burn-in" a system. But it's not the most predictable application for use on production systems. Because Folding@Home can download different types of work units to each machine, you won't know what kind of workload it's putting on the system. A program like *Prime95* or *CPU Burn-in* might be a better option as both are controllable and produce repeatable results. For maximum heat generation on a Hyper-Threaded processor, run two instances of the given application.

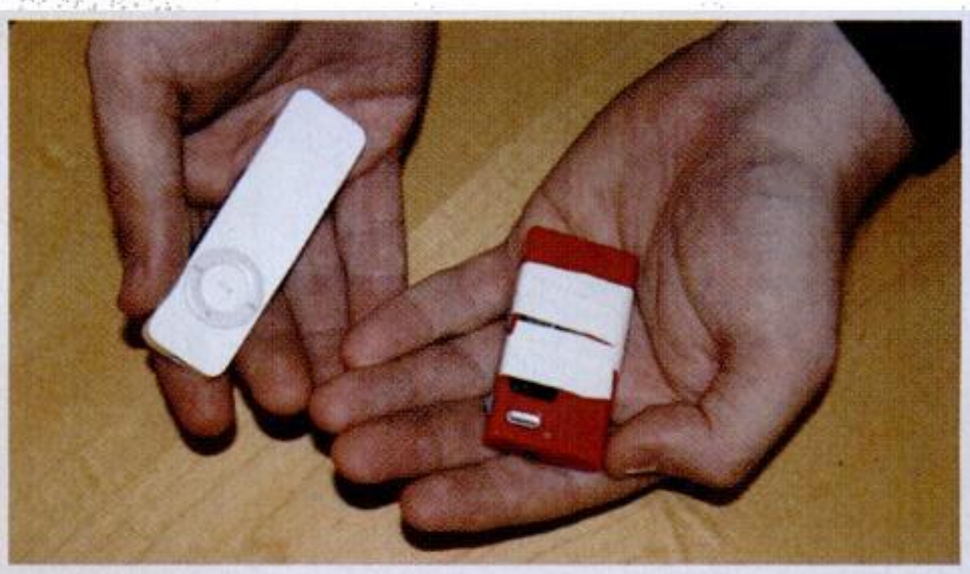
SOL ON SLI

I've been designing a new computer I wish to build and have done a ton of reading. My goal is to build a good computer that has the latest technology for gaming. In preparation for 64-bit apps, I decided to use Intel's 955X chipset. I was looking at nVidia's website to find out more about SLI technology, and I noticed that their list of certified SLI components doesn't include Intel 955X motherboards. Does that mean I drop the SLI idea and stick with the Intel 955X motherboard?

—PAUL HILL

SENIOR EDITOR GORDON MAH UNG RESPONDS: That's the rub with SLI and Intel's 955X chipset: It's unclear at this point whether SLI will work with 955X chipsets. We suspect that Intel, ATI, and VIA are working on a way to get around the lock nVidia has on the SLI limitation, but that's not going to help you for a few more months. You have to decide if two cards are important or not. If they are, you should consider an nForce4 SLI Intel Edition board. If you get a motherboard that supports dual-core and SLI, you're pretty much set to jet.

SHUFFLE KERFUFFLE



With 10 cents worth of electrical tape, you can add the "No screen" feature of the iPod Shuffle to your Creative MuVo!

The iPod Shuffle should have been the winner of last month's Head2Head (iPod Shuffle vs. Creative MuVo Micro N200, June 2005). Battery life on my Shuffle is excellent, whereas the MuVo uses a AAA battery which costs extra. And the MuVo Micro we have at work is constantly running out of juice—it's gotten to the point where we quit putting in batteries until someone wants to try it out. Then you held back the iPod Shuffle with the common crabbing about no LCD screen, which in the Shuffle's case is a feature.

—CHRIS BLAKE

LOGAN "I REGRET NOTHING" DECKER RESPONDS: There are no doubt many folks who would enjoy the iPod Shuffle more than Creative's MuVo Micro: In fact, I know some of them personally, and we continue to enjoy rich and rewarding friendships. But I disagree with your talking points. Yes, a AAA battery does cost extra (and adds a bit of weight), but we got three more hours of playback on a single battery than we did on a full charge of the iPod Shuffle. Additionally, if the battery dies on you, you can swap in a new one no matter where you are. (It sounds like the MuVo you've got at work is either faulty, or someone disabled power-saving settings in the menus.)

As for the absence of an LCD screen being a "feature," it sounds like you've knocked back a keg of the Apple Kool-Aid. Here's a secret tip from the Maximum PC Lab: Set your MuVo Micro to "Random" play, put a piece of tape over the LCD, and—*voila!*—you've got the best of both worlds!

CONNECTING YOUR CABLES

When you tested Creative Labs' Audigy 2 soundcard and Logitech's Z-5500 digital speakers [November 2004], which settings did you use? I own that card and those speakers, and I think they're both awesome. But I really don't know which cable configuration will give me the best sound performance. I don't watch DVDs much, but I do enjoy listening to music in surround sound.

—DANIEL WINDISCH

EXECUTIVE EDITOR MICHAEL BROWN RESPONDS: If you enjoy surround-sound music, we heartily recommend that you check out DVD-Audio—the sonic quality is flat-out amazing. And if you're going to listen to DVD-Audio, you must connect the Audigy 2's three analog-audio outputs (front, rear, center/subwoofer) to the corresponding

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COMING NEXT MONTH

IN THE *I-LIKED-IT-SO-MUCH-I-BOUGHT-THE-COMPANY* AUGUST ISSUE OF *MAXIMUM PC*

SIMPLE STEPS FOR A BULLETPROOF PC

"Buy this software or you, your family, and even your pets are dead." That's almost as dramatic as some of the box copy we've seen on today's PC utilities. So we're dragging them into the Lab to find out how well they really protect you against spyware, trojans, Internet-transmitted diseases (ITDs), and even the tragedy of performance degradation. You'll get easy answers about using them effectively, and we'll let you know how the freeware utilities stack up to the commercial apps. As always, the best defense is a good offense, so check in next month for our most offensive issue ever!

LCD-EELICIOUS!

Forget the specs—beauty is in the eye of the beholder when it comes to choosing a new display. 11 new LCDs go head to head in the Lab, where they're tested for performance in applications, games, and movies.

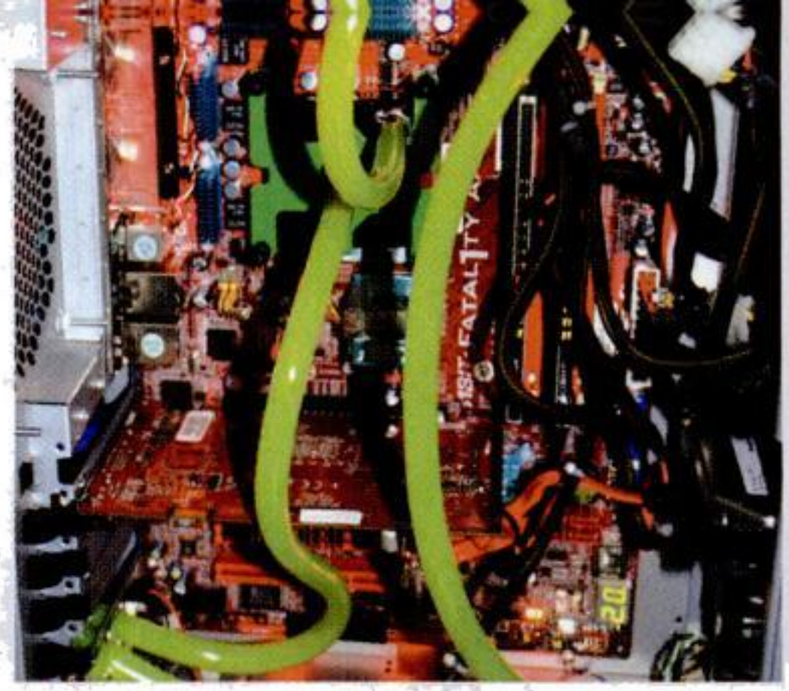
THE LOST LANGUAGE OF SATA

eSATA, SATA II, xSATA. Wasn't the svelte replacement to parallel IDE cables supposed to make things simpler? *Maximum PC* decodes the acronyms and explains all those confusing SATA extensions in plain English, so you'll know what they mean, what they do, and what you need to buy.

KEEPIN' IT REAL COOL

I read your response to Chris Kaufman ("Foolin' With Coolin," June 2005), trying in vain to find your loophole in the Laws of Thermodynamics. Heat always flows from hot to cool, therefore the coolant flow should go from the LEAST hot component to the hotter, and then to the hottest. If the coolant flows to the hottest component first it is possible to transfer heat from a hotter to a cooler component before the heat is transferred to the radiator and dissipated.

—LLOYD G. HEHLO



Because the water in a liquid-cooling circuit never gets very warm, the primary consideration when configuring the circuit should be avoiding kinks in the lines.

ASSOCIATE EDITOR JOSH NOREM RESPONDS: The reason why every water-cooling kit on the market recommends that water is sent directly from the radiator to the CPU is because the CPU is the hottest component in the circuit, and therefore in need of the most cooling. Because its cooling demands are higher than those of the other components (VGA, chipset, etc.), it makes sense to have water flow directly from the radiator into the water block—this is the point in the circuit where the water is at its lowest temperature. That said, this whole discussion is largely irrelevant because the water in the circuit never gets very hot, regardless of the direction of flow. The temperature delta between any two points in the circuit shouldn't exceed 1 degree Celsius, so it's not worth losing sleep over. We spoke with Corsair about this issue several months ago and they confirmed that alternate flow patterns don't have a significant effect on overall cooling performance.

inputs on the Z-5500's control module. As with dedicated DVD-Audio players, the Audigy 2's digital-audio outputs are disabled when playing DVD-Audio content (so that you can't make digital copies). Besides, there's no compelling reason to choose the Z-5500's digital-to-analog converter over the Audigy 2's.

BETTER BITS FOR EASIER DRILLING

[Regarding the network-wiring portion of the June 2005 media-streaming feature], drilling through dense, old houses can be tricky, but if you have the right tools, you might have an easier time. Instead of using a standard wood bit, you should have tried a stronger carbide-tipped, or even a diamond-tipped, masonry drill bit. A hammer drill might also make your drilling go faster.

—JOHN MEIDELL

CUT, COPY, PASTE

➤Thanks to the prevailing use of incoherent "model numbers" on modern, hypermarketed CPUs, we incorrectly identified the CPU in our review of the iBuypower system in the June issue. The processor was a Pentium 4 650, not a P4 660.

COOLING CONUNDRUM

My PC is water-cooled via a Thermaltake Aquarius 3 external kit. I can cool my P4EE 3.4GHz and my BFG 6800 Ultra to 55 degrees Celsius under full load. I'm using plain tap water as coolant, but I want to go cooler. What should I use: tap water, deionized water, distilled water, ethylene glycol, alcohol (isopropyl or ethyl), or a mixture of any of the above?

Finally, some coolants are UV reactive. Does the UV additive affect cooling at all?

—JAY VICTOR

ASSOCIATE EDITOR JOSH NOREM RESPONDS: You must not have read the instruction manual that came with your Aquarius cooling unit, Jay, as it states clearly to use distilled water. The manual goes on to state that as an alternative to distilled water you can use car coolant, which isn't very specific, but would seem to refer to a combination of distilled water and ethylene glycol.

Just to be on the safe side, we sent your query to Cooler Master, which responded by saying that none of the liquids you listed are sufficient by themselves, so you have to mix and match to achieve maximum performance. As a general rule, most vendors recommend a blend of distilled water along with some type of anti-corrosion additive, though the specific ratios of this blend as well as the chemicals involved, vary according to which company you talk to.

There is one thing that everyone interested in water cooling can agree on: Using tap water alone as the cooling medium is bad, bad, bad. You deserve to be spanked! Tap water is full of minerals that will leave deposits in the pump and also corrode the water blocks.

As for the UV reactive additives, it would depend on the specific additive, which varies from vendor to vendor. ■

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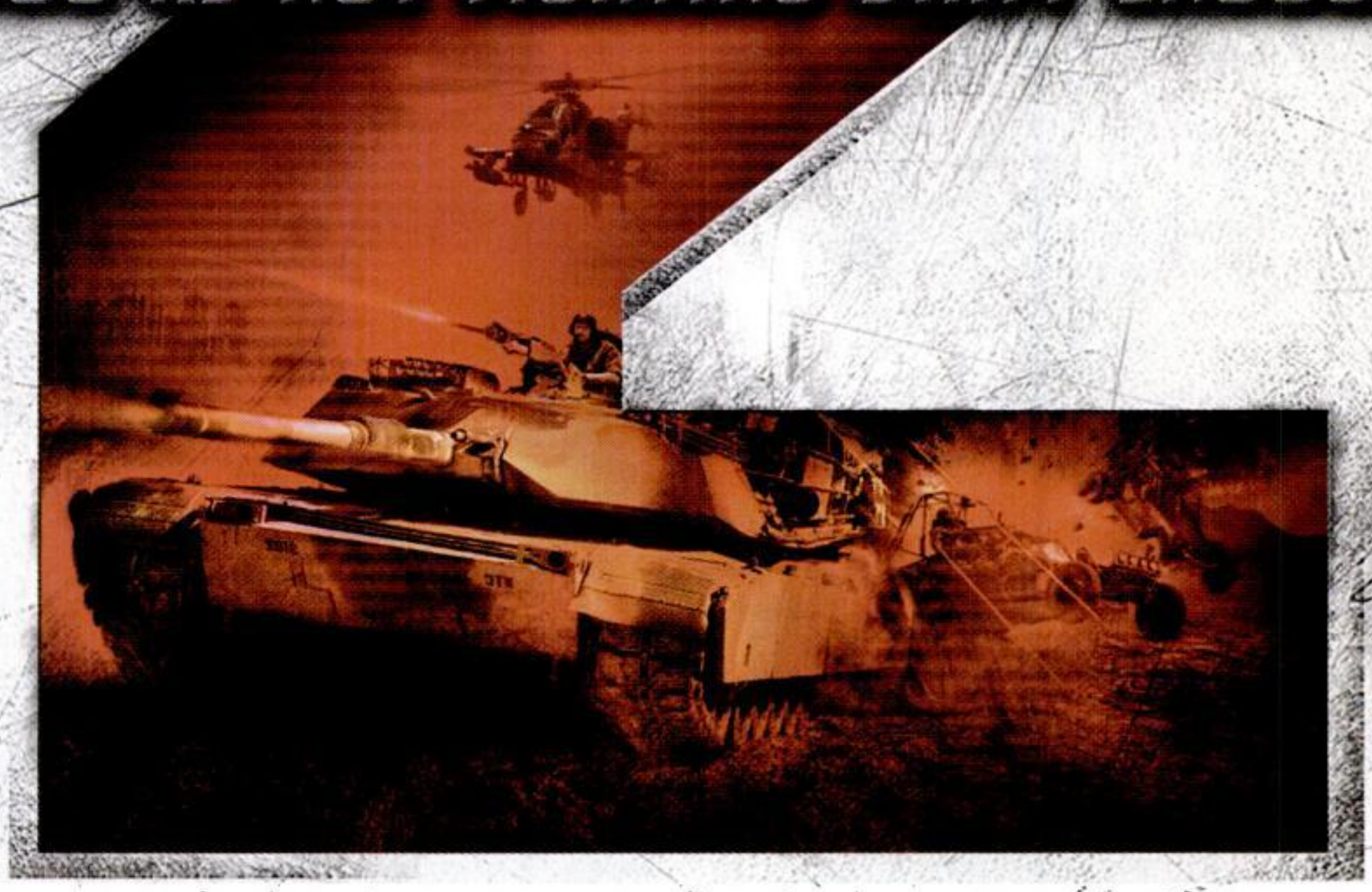

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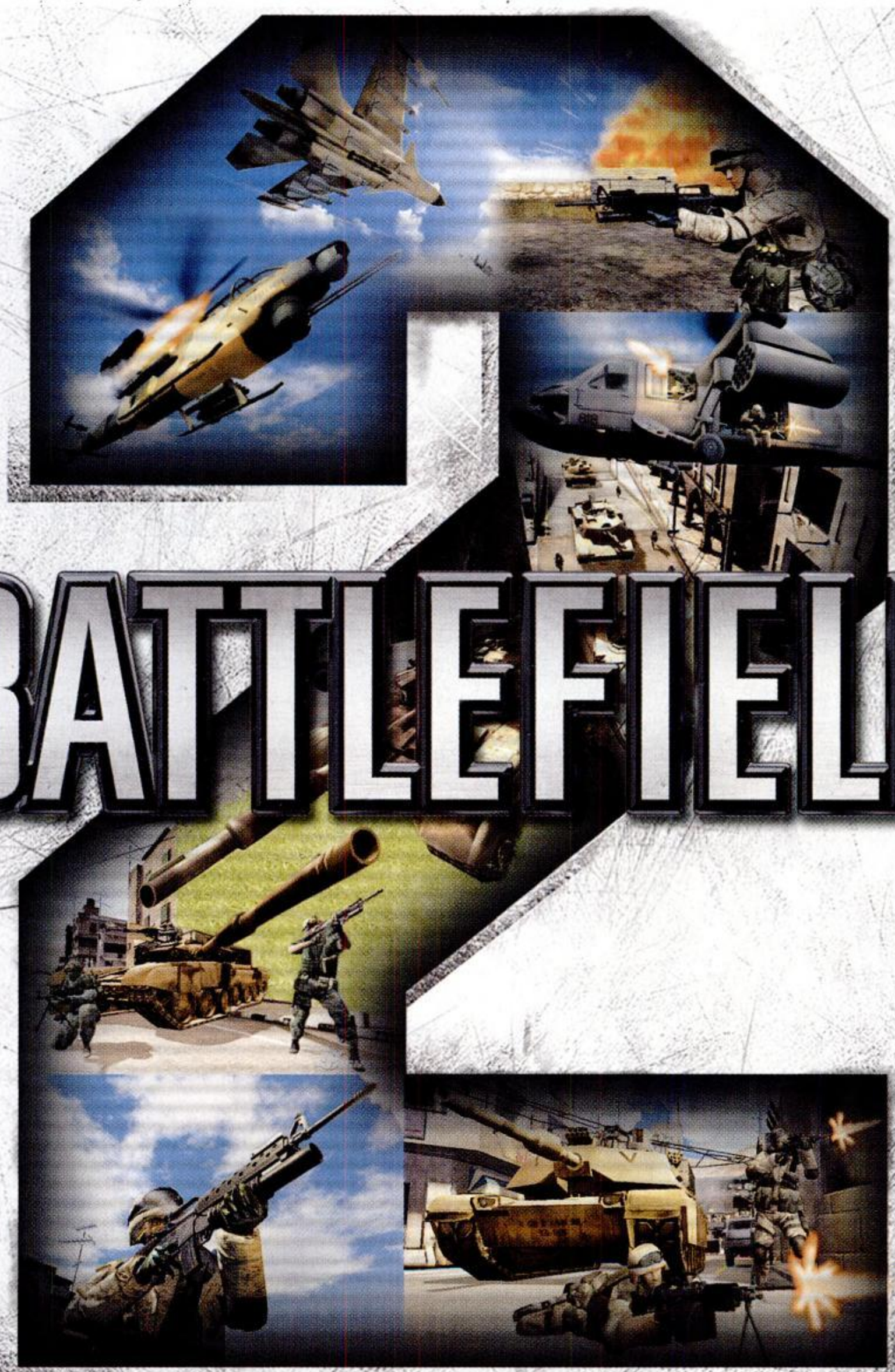

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QuickStart

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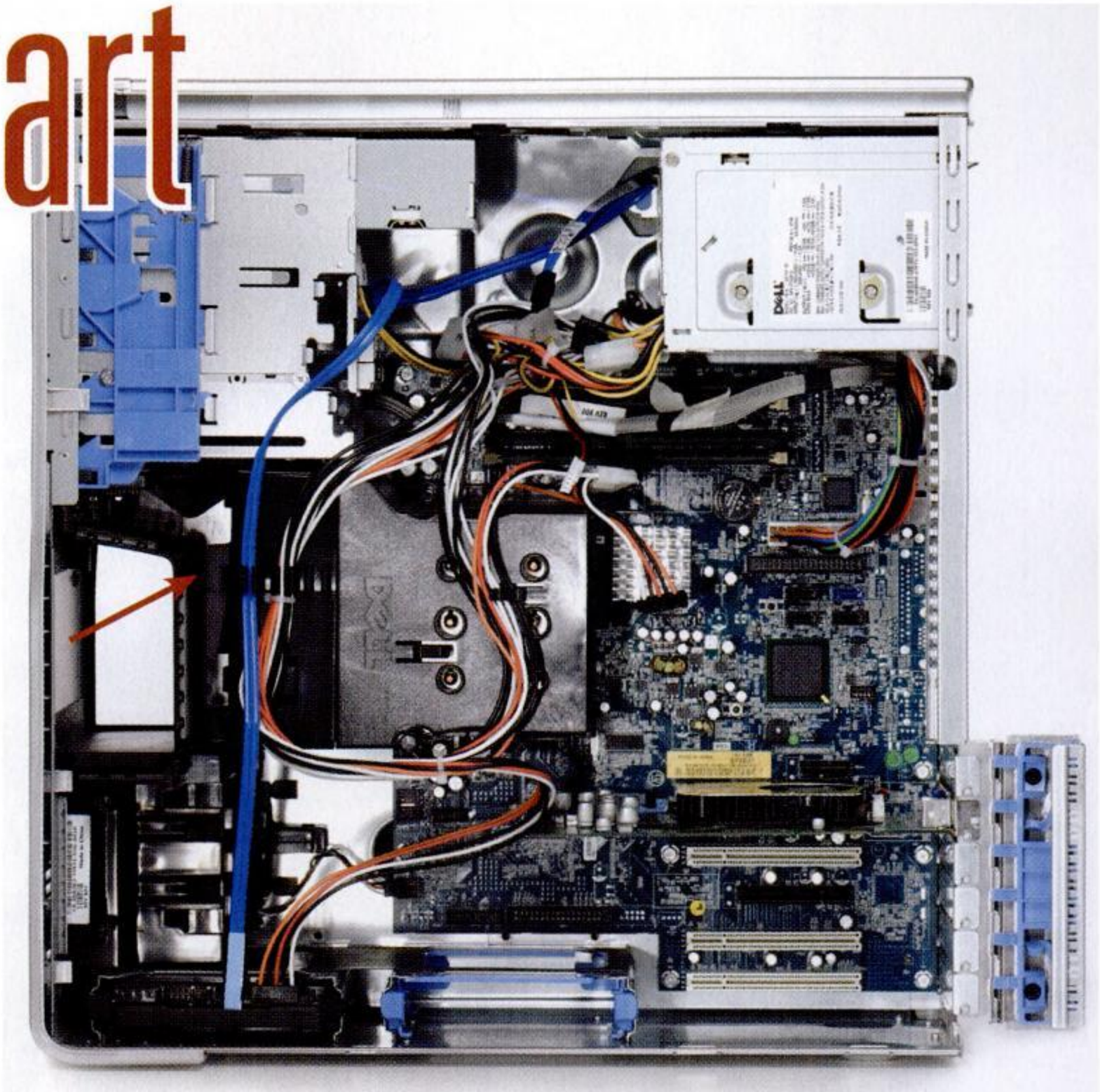
BTX Finally Arrives!

Dell, Gateway sign up while others wait it out



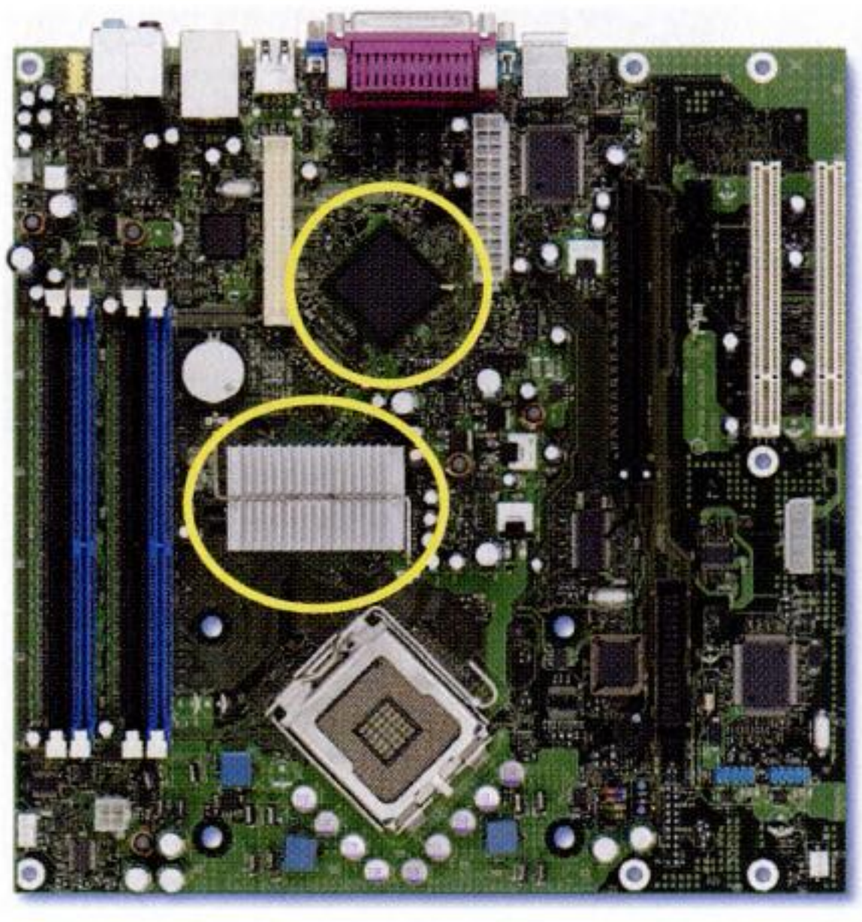
Dell's new BTX desktop, the Dimension 9100, features air scoops in the front of the case (see arrow), which draw air into a massive heatsink/fan that cools the CPU and the chipset.

During this year's birthday party for the ATX formfactor, we had to have a volunteer firefighter standing by with a fire extinguisher, poised NASCAR-style, ready to spring into action should the nine-candle Bundt-strosity turn the Lab into an inferno. As we set the cake down next to the ATX case's 120mm exhaust fan and asked the honoree to make a wish, we thought to ourselves, "You've had a good life old boy," reminiscing about the times we've had together. It was a somber occasion, and though we're not quite ready to say goodbye to ATX completely, it won't be long before we embrace Intel's Balanced Technology Extended (BTX) formfactor.

Gateway is already selling BTX systems, and last month Dell announced it would soon switch some of its desktop systems over to the fledgling formfactor, which features a new case and motherboard design. If you've been in a hole the last year, BTX designs rearrange components on the mobo's PCB from their current ATX locations, in order to aid cooling and allow faster communication between the CPU and chipset. Dell's decision to back the Intel-sponsored design comes as no surprise as the two companies are long-time partners; and Dell's considerable market influence should help kick start an industry-wide migration process. Smaller system builders, however—especially those that sell a lot of AMD-based rigs—remain skeptical of the need for the new formfactor when ATX is still sufficient, even for high-end gaming PCs.

Rahul Sood, president of boutique vendor Voodoo PC, says he's not looking forward to the migration process. "I believe BTX was a last ditch effort to try to cool processors that have exceedingly high thermal requirements, and since low-voltage desktops seem to be catching on, I'm not sure that all manufacturers will jump on board immediately," says Sood. He went on to say that AMD certainly isn't pushing the adoption of BTX because the thermals on its processors are much lower than Intel's, concluding, "this is one of the most painful potential upgrades we've seen to date in the PC industry." Several other system builders we spoke with wouldn't comment on their plans for the future.

So can we expect to see AMD-based BTX systems in the near future? After discussing the issue with AMD, it seems unlikely. "We're fine with the ATX standard," says AMD spokesman Damon Muzny. "We fit within the thermal capabilities of ATX, and it's serving us well. If the industry goes toward BTX there's nothing that will prevent us from being within the thermals of that specification too, so it won't be a problem."



Intel's 915 BTX board illustrates the advantages of the new design. Aside from relocating the CPU socket, the north and south bridges (circled) have also been repositioned closer to the CPU for faster communication.

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Notebook Storage Gets Buffer

Hybrid drive debuts with 1GB of onboard memory

Samsung and Microsoft recently pulled the wraps off a new hard drive that combines a standard notebook disk drive with up to 1GB of onboard flash memory. The hybrid design is the first device of its kind to use nonvolatile flash memory for data writes in addition to the standard several-meg allotment of DRAM-based cache, and is aimed at reducing power consumption, improving reliability, and speeding the boot process.

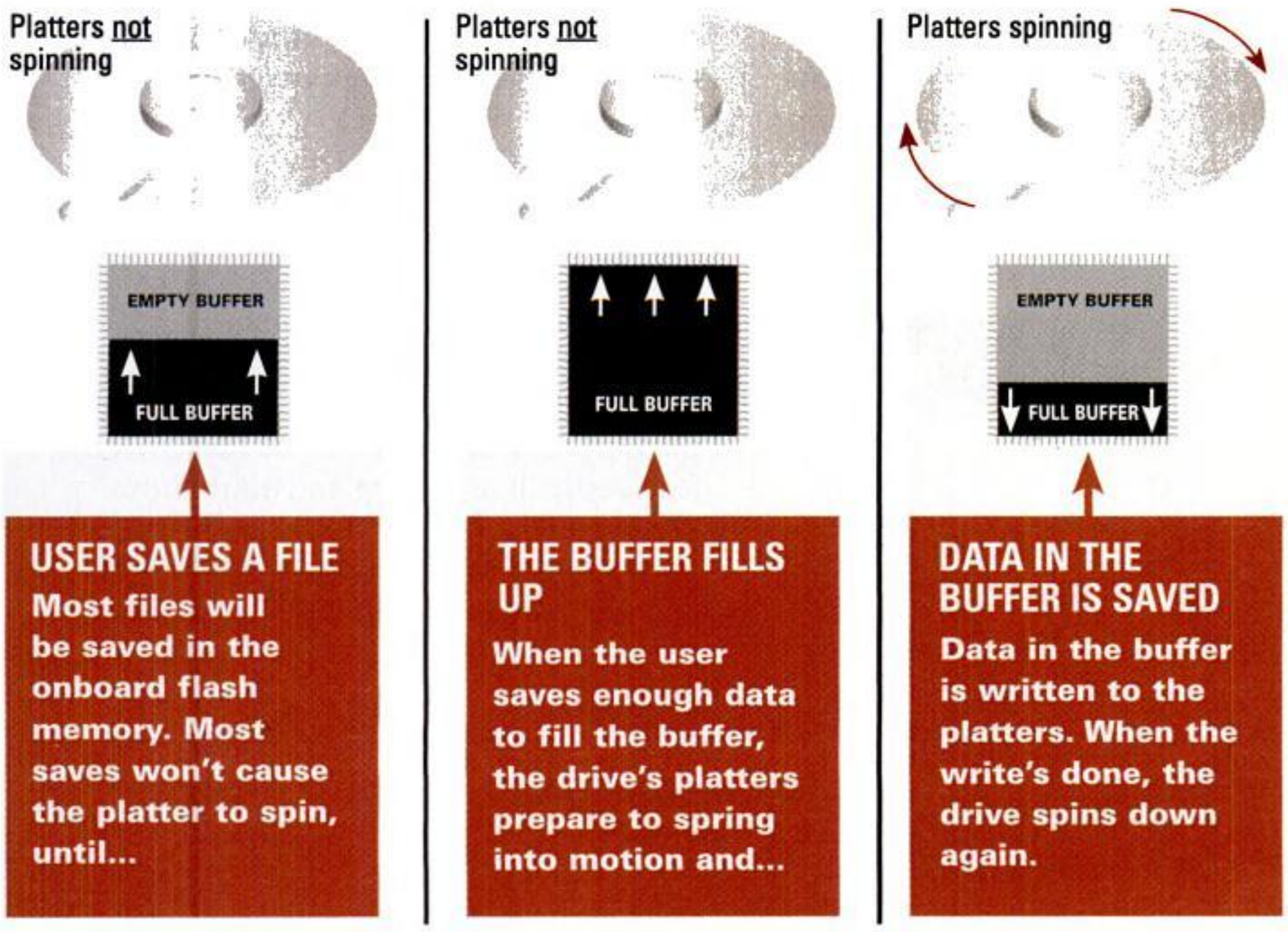
The drive will look just like a standard notebook drive, but will function in a drastically different manner. In its normal operating state—if you are just surfing the web or reading e-mail—the drive's platters are spun down and everything that is being written (saved files, browser cache, etc.) is written to the drive's flash memory. Even if you're working in Microsoft *Word* and you save your file, the drive's platters will remain inactive and the data will simply be written to the buffer. In fact, the drive's platters will remain inactive until one of two things happens: Either the buffer gets full, in which case the platters spin up and the buffer writes its contents to the disks, or a read request is sent, in which case the platters will have to be activated in order to retrieve the data. Once the platters are done sending the data or writing the contents of the buffer, they will revert to their spun-down state. An important benefit of this approach is that the nonvolatile nature of flash memory means it doesn't require power to hold data (unlike DRAM), so anything you write to the buffer will still be there even if your PC crashes unexpectedly.

Samsung points out that this hybrid design offers three key advantages over the current 2.5-inch notebook design. Having the platters spun down 90 percent of the time will increase battery life and produce less heat. Second, the drive should be more reliable. Because the platters are spinning less, wear and tear is minimized, and because the read/write heads will be docked most of the time, crashes due to sudden movement should be virtually eliminated. Third, notebooks equipped with this drive should be able to boot instantly, or at least within 10 seconds or so, as key OS files can be loaded directly from the flash memory buffer.

It sounds great, but we'll have to wait until late 2006—or whenever Microsoft's next OS is released—to see how these hybrids work in the real world. The drive is being designed to work natively with Longhorn, as the OS has to be tuned to take advantage of the drive's write buffer.

HOW THE HYBRID DRIVE WORKS

In its normal operating state, the drive's platters are spun down with the read/write heads parked, which reduces noise and power consumption. The 1GB buffer is only used as temporary storage.


Platters not spinning
EMPTY BUFFER
FULL BUFFER
USER SAVES A FILE
Most files will be saved in the onboard flash memory. Most saves won't cause the platter to spin, until...
Platters not spinning
FULL BUFFER
THE BUFFER FILLS UP
When the user saves enough data to fill the buffer, the drive's platters prepare to spring into motion and...
Platters spinning
EMPTY BUFFER
FULL BUFFER
DATA IN THE BUFFER IS SAVED
Data in the buffer is written to the platters. When the write's done, the drive spins down again.

FAST FORWARD BY TOM R. HALFHILL

The Digital Look

The debates about digital photography continue to rage, with film users sounding more and more like NRA stalwarts: "I won't give up my film camera until you pry it from my cold, dead fingers." Often the argument swirls around what some critics call the "digital look"—the alleged inferior quality of digital photographs. Pixels just aren't the same, they claim. Can it be true?

I've been shooting film since the 1960s, working in darkrooms since the 1970s, and making digital images since the 1980s. I have used film formats from 110 to 8x10, and I have owned high-grade film and digital cameras (Canon F1, Leica M6, Mamiya 645, Nikon D70). I believe I can explain the elusive "digital look." Partly, it depends on your age and what kind of photographs you're used to seeing.

My first big prints from the Nikon D70 were a revelation. At first, they looked like enlargements from medium-format film, with smooth, grain-less skies and almost liquid tonality. Upon closer examination, however, I found they lacked the fine detail of a true medium-format image.

In this case, the digital look is a trick of the eye. Digital prints resemble grain-less medium-format film images, but with 35mm detail. I believe that some people experienced with medium format have a visceral reaction (conscious or subconscious) against this "trick." If you're not accustomed to larger film formats, you probably won't notice it. Hence the debate.

Another example: digital noise. Spurious, multicolored pixels often appear in darker areas of a digital image, especially if the picture was taken in low light at a boosted ISO. Film fanatics hate digital noise. In an experiment, I secretly converted a noisy digital photo to black and white and showed it to some film lovers. They praised the picture.

In this case, the film people mistook the noise for film grain. They saw what they expected to see, and one person even said the grain enhanced the mood of the picture. But all these people were near my age. Younger people tend to view grainy black-and-white pictures with less enthusiasm and are more receptive to color photos, even with digital noise.

The lesson? The digital look is real—and an illusion. Both sides of the debate are valid, because people are responding to digital photos according to their preconceptions. Years from now, when everyone has grown up with digital, people will wonder what the debate was all about.

Tom Halfhill was formerly a senior editor for Byte *magazine and is now an analyst for* Microprocessor Report.

FUN-SIZE NEWS

DOWNLOAD.COM CLEANS UP

Everyone loves downloading goodies from CNET's Download.com, but waking up the next morning to find that your PC has that all-too-familiar adware stench is no fun at all. To combat the spyware threat, the folks at Download.com have adopted a zero-tolerance adware policy. CNET is giving software publishers who currently have files on Download.com three weeks to remove adware from their products, and it has rousted more than 500 adware-based apps and utilities. Good on them, but it probably means we'll have to get our smiley collections and bikini girl screensavers elsewhere from now on, damn it.

NANO NANO

Water cooling is for sissies. Real men use liquid-metal cooling—or at least they might someday.

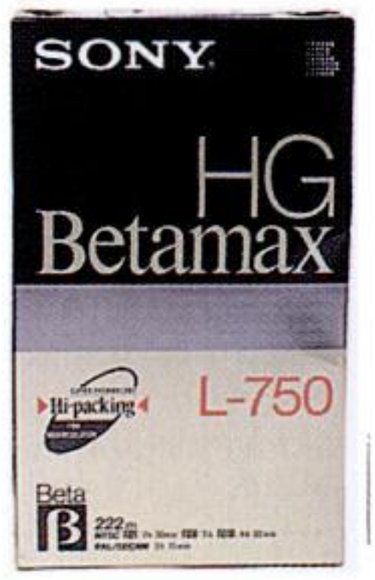
A company named nanoCoolers (www.nanocoolers.com) has developed a cooling circuit that uses liquid metal, so rather than pumping water through the circuit, it uses magnets at either end to push and pull the liquid through the loop. The company claims its liquid metal is 65 times more thermally conductive than water, and because the pump has no moving parts, its inherently reliable and totally silent. Products using the nanoCooler will be shipping later this year.

GO-L, GOING, GONE!

The enthusiast PC market was stunned recently to learn that super-charged PC manufacturer Go-L, which laid claim to paradigm-shifting technologies including PuRAM and CacheFlow, has shut down for good. In a message posted on its website to its hordes of fans and both of its customers, Go-L waxed rhapsodic about its struggles to obtain funding, saying that although it captured the imagination of millions worldwide, it "never managed to attract the attention of individuals... capable of investing." The 42-page manifesto went on to postulate that Go-L didn't receive funding because "maybe we simply became too dangerous." One can only hope that the patent for CacheFlow shows up on eBay soon.

HD-DVD Debu-Detente

Consumers might get a single hi-def DVD format after all



Could it have been the ghost of Betamax that persuaded rival companies to settle on a single standard for tomorrow's DVDs?

Years of maneuvering and backroom deals with manufacturers resulted in two incompatible next-gen optical specs, so the primary forces behind Blu-ray and HD-DVD are making moves toward a compromise. Prompted by Hollywood studios and PC manufacturers, Sony and Toshiba have reportedly begun negotiations to merge their respective technologies into a single, consumer-friendly format.

Why the sudden about-face? Neither standard had a clear technological or commercial advantage; Blu-ray has greater capacity and Sony's marketing muscle behind it, but HD-DVD offers reduced production costs and is on schedule to ship products by this summer. Proponents of both specs realized that the confusion over two incompatible standards would have spooked consumers and crippled sales of set-top players and high-definition DVDs.

A single hybrid standard remains far from a sure thing, however. Toshiba still intends to ship first-gen product this summer, and neither side is happy that a compromised spec could delay production as much as two years while it's engineered and tested.

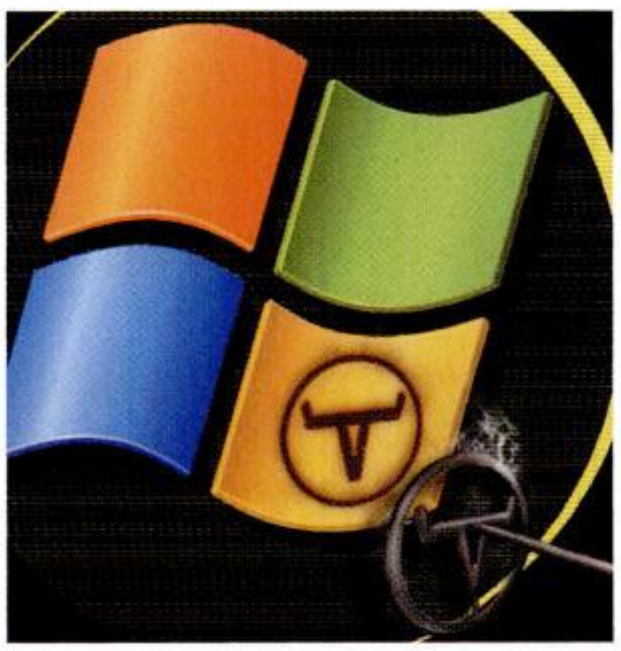
Longhorn Videocard Requirements Unveiled

At the recent Microsoft WinHEC Windows hardware conference, Microsoft released a few tasty morsels of info about Windows Longhorn and its integrated Windows Graphics Foundation (WGF). WGF is the API that Longhorn and graphics hardware use to draw the desktop in Longhorn. It appears Longhorn will ship with two versions of WGF, 1.0 and 2.0. WGF 1.0 includes the functionality of Direct3D 9.0c, while 2.0 includes what would have been called Direct3D 10.

Why all the big changes? One of the eagerly anticipated features of Longhorn is the 3D interface, code-named Aero Glass. In order to deliver reliable and fast 3D on the desktop, the Longhorn team had to make fundamental changes to the underpinnings of the 2D renderer, which is currently handled by the Graphical Device Interface (GDI). On Windows XP, when an app needs to create a window, it sends a message to the GDI, which in turn tells the videocard to draw the window.

In Longhorn, GDI and WGF will peacefully coexist. Apps designed for Longhorn will use WGF, and older XP-friendly apps will use GDI. If you want to use the Aero Glass GUI, you'll need to make sure you have powerful enough hardware.

Longhorn's graphical user interface will be available in four tiers ranging from bare minimum to eye-candy galore. The top two tiers will be known as Aero Express and Aero Glass. Current rumor is that Aero Express will require a DirectX 9 videocard with at least 64MB of graphics memory, and will deliver some advanced features such as scaling and animations. The premium UI, Aero Glass, will deliver all of Longhorn's elaborate special effects, and will require a minimum of 256MB of memory and a DirectX 9.0 videocard that supports Pixel Shader 2.0.



Microsoft's next OS will be pretty, shiny.

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GAME THEORY

All the Colors of the Dark

There is something sublimely absurd about extolling the graphical prowess of a game that takes place almost entirely in the dark. In *Splinter Cell: Chaos Theory*, however, the darkness *is* the game, and the game is the darkness. This seems profoundly counterintuitive for graphical hardware hounds, particularly because the engine Ubi Montreal created for *Chaos Theory* does a wonderful job of pushing polygons. When you see them, that is.

Sure, there are places in the game where a level is lit up like a Macy's window display at Christmas. It's enough to make Sam Fisher stop and say, "Oooo, pretty, shiny things!" And, as he walks out to enjoy the scenery, he trips an alarm, alerts a guard, catches a bullet in the head, gets an Acme anvil dropped on him... you name it. The point of *Splinter Cell* is *not* to enjoy the scenery. It's a weird conundrum for gamers. Beautiful sights are laid out for you to view, but if you step into the light to view them: game over, man. Game over.

You're reduced to shooting out bulbs, turning off light switches, and avoiding that opulent wide-open space, like the monk given visions of gorgeous women and being forced not to look at them. It's kind of perverse, when you think about it. Night-vision mode bears an uncanny resemblance to the Hercules-driven colors of my first computer, which was good for playing *Leather Goddesses of Phobos* and not much else. The point of the game is to make the pretty visuals go away so I can use these ugly monochrome graphics to actually win.

Is Ubi Montreal trying to make some profound point about self-denial as the way to true inner fulfillment, or are they just yanking our chains?

And so we are left in the dark, and as photographers and cinematographers know, the darkness has countless shades and contours and shadows. Watch a poorly compressed DVD of a black-and-white movie and see how hard it is to digitally recreate variations in black. Shadows can appear like the distinct bands of a gray-scale chart rather than the fluid blending of shades. This is the real reason that *Chaos Theory* impresses: this ability to render darkness so beautifully, in its many subtle patterns.

Tom McDonald has been covering games for countless magazines and newspapers for 11 years. He lives in the New Jersey Pine Barrens.

The Dreaded Broadcast Flag Is Rejected—For Now

The broadcast flag was former FCC Chairman Michael Powell's baby. Our condolences, Mr. Powell.

If the Motion Picture Association of America (MPAA) and the Federal Communications Commission (FCC) aren't returning your calls, don't be offended. It's probably because they've taken a few Vicodin and gone to bed after the U.S. Court of Appeals unanimously rejected an FCC regulation mandating that all digital television tuners manufactured after July 2005 support a copy-protection scheme called the "broadcast flag."

Introduced by ~~Emperor~~ FCC Chairman Michael Powell in 2003, the broadcast flag would have given broadcasters the ability to prevent you from recording, transferring, or even time-shifting over-the-air digital transmissions. The court's decision in this regard was unambiguous: The FCC went too far by attempting to regulate what happens *after* you receive a broadcast transmission. In other words, the FCC has the congressional authorization to prevent the transmission of Janet Jackson's exposed right nipple, but it doesn't have the right to tell you what to do with your recording of her "wardrobe malfunction" after it's been received.

Although manufacturers may have escaped the July 2005 deadline to incorporate broadcast-flag support in their products, the MPAA will no doubt lobby legislators to write the broadcast flag into law. If you suspect that the MPAA might be a tad short-sighted—they did, after all, once declare that home videorecorders were the "Boston Strangler" of the entertainment industry—we suggest you let your congressperson know how you feel about the broadcast flag.

Small Wonder

New Dothan-based SFF rigs debut

The Z3 lineup lets you satisfy your Apple lust while staying true to your PC roots.

They say that imitation is the highest form of flattery, so we're sure Steve Jobs and company will get a kick out of Aopen's new Z3 line of XC Cube small formfactor PCs. The small, lithe boxes are modular in design and built for consumers desiring a PC that takes up minimal desk space and operates in near silence.

The smallest of the bunch, the Mini, is made entirely of aluminum and features an Intel 855-based mobo that uses a Dothan/Pentium M processor. It's certainly not a power-user rig with its solo AGP 4x slot and wimpy 150W power supply, but the trade-off is cool and quiet operation; the wee rig never exceeds 27 decibels, even under full load.

If the Mini is a bit too mini, Aopen also offers the Buddy and Tower models, with the former serving as an add-on for additional hard drive and I/O ports, and the latter being a larger version of the Mini with more room for hardware.

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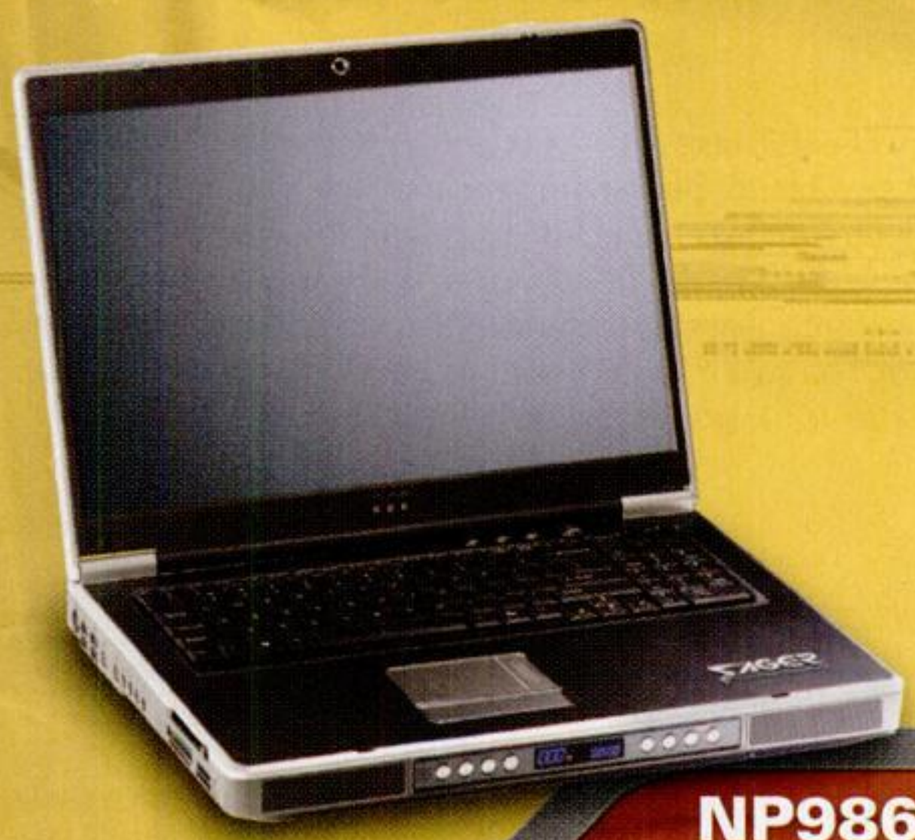
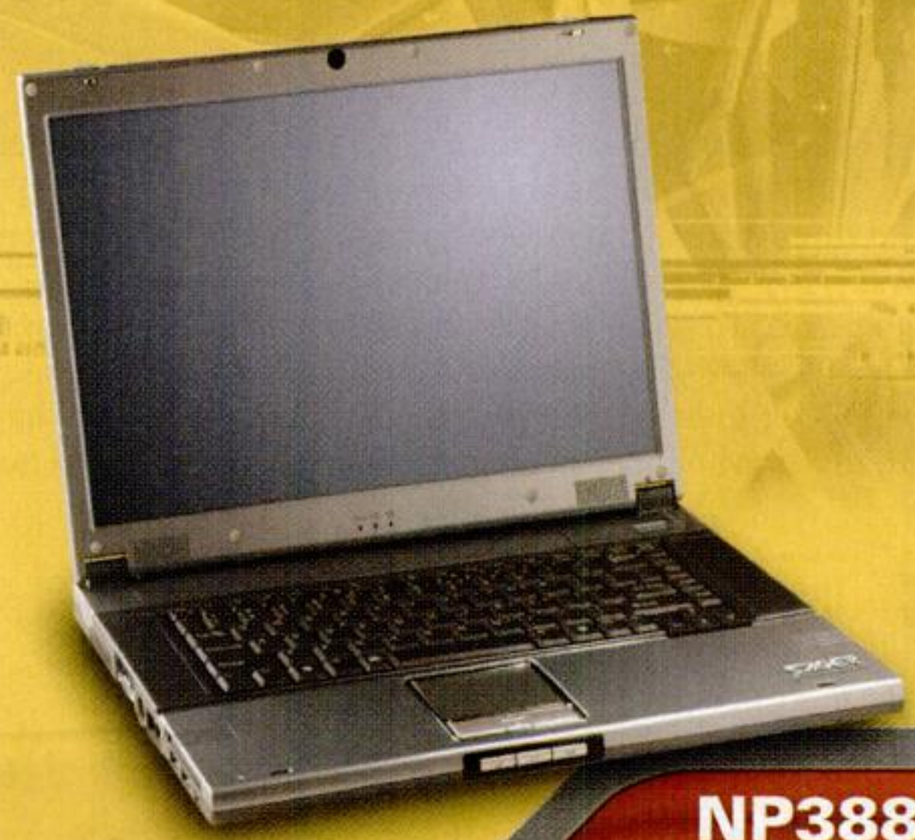


NP9860



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- 256MB DDR3 nVIDIA® GeForce™ Go 6800 PCI-Express™ Graphics
- 1024MB Dual Channel DDR2 SDRAM
- 60.0GB 7200RPM Ultra ATA100 Hard Drive
- 8X DVD±R/RW[1] Dual Layer Drive
- Full Size Keyboard with Numeric Keypad
- Front Panel Audio DJ with Separate Power Switch
- Hardware Raid 0,1 Function
- Built-In Digital Video Camera
- Built-In 7-in-1 Card Reader
- 4 Built-In Speakers with a Subwoofer
- External USB 1.44MB Floppy Disk Drive
- Integrated Fax Modem[4] and 10/100/1000 Ethernet
- Microsoft® Windows® XP Home Edition
- Sager's Umbrella Protection Policy

NP3880V $1995

FEATURES

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- Port Replicator

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Head2Head

A showdown among natural PC competitors

THIS MONTH: Multi-Protocol IM Clients

What did God do after creating the Earth, the Sky, and the Sun? Geeks say instant messaging was next, enabling easy communication between computer nerds everywhere. And it was good. Over the years, man improved upon instant messaging, expanding its abilities to include audio and video conversations, file transfers, and more. And it was, uh, even more good.

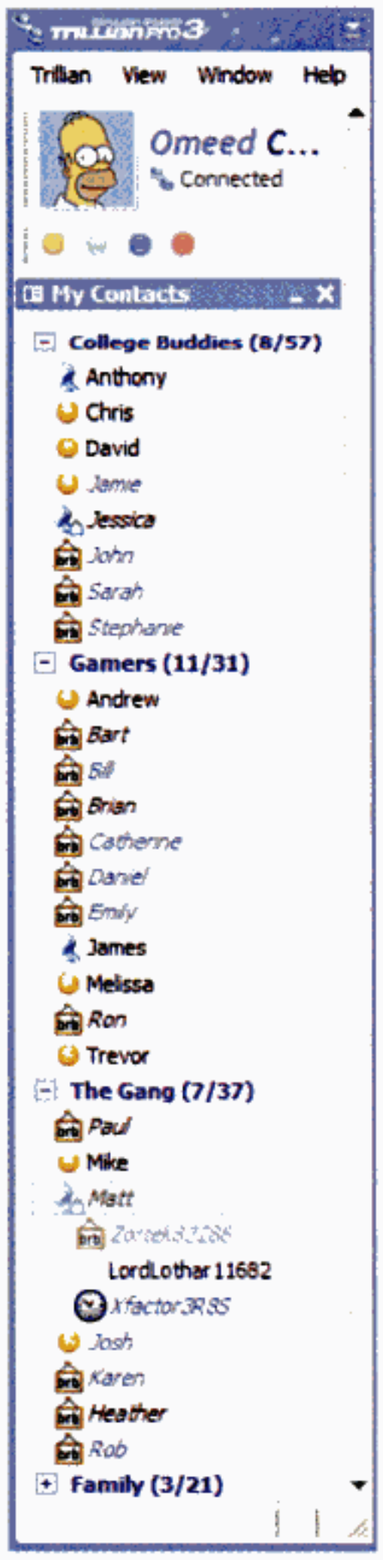
Of course, innovation is driven by competition—in this case, competition between various companies, each offering its own proprietary client. These IM clients don't interoperate with each other, and as a result, people find themselves installing two, three, or even four IM clients just to stay in touch with their pals.

If you're stuck in multi-IM hell—or if you simply crave a more powerful instant-messenger client—then you need a third-party IM program. The two popular multi-protocol clients, *Trillian Pro 3.1* and *Gaim 1.2.1*, go under the microscope this month.

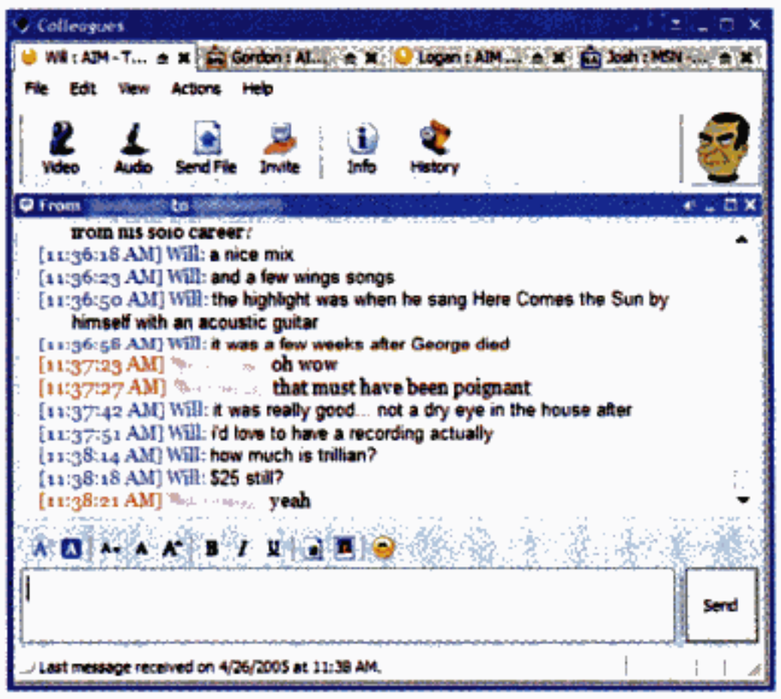
—OMEED CHANDRA

Trillian Pro 3.1

Protocols supported: *Trillian Pro* supports all of the most popular IM protocols, including AOL IM and ICQ (AIM and ICQ are both owned by AOL and use the same protocol), MSN Messenger, and Yahoo! Messenger. *Trillian* also supports the open-source Jabber IM protocol, Novell's corporate GroupWise Messenger, and Apple's Rendezvous protocol for LAN messaging. Our testing found few compatibility problems. Minor gripes include occasional issues with file transfers—but these are common to most IM clients, especially when you're sending or receiving from behind a router. **Winner: Trillian Pro**



Features: Every feature you could want in an IM client is incorporated into *Trillian*, including tabbed instant messaging, conversation logging (albeit plain text-only), and encrypted messaging with other *Trillian* users via SecureIM. Our favorite feature is MetaContacts, which lets you merge multiple screen names on different networks into a single contact. Regrettably, *Trillian Pro* still can't view HTML user profiles without a plugin. Still, *Trillian* comes out slightly ahead in this category. **Winner: Trillian Pro**


Colleagues
File
Edit
View
Actions
Help
Video
Audio
Send File
Invite
Info
History
[11:36:18 AM] Will: a nice mix
[11:36:23 AM] Will: and a few wings songs
[11:36:50 AM] Will: the highlight was when he sang Here Comes the Sun by himself with an acoustic guitar
[11:36:58 AM] Will: it was a few weeks after George died
[11:37:23 AM] oh wow
[11:37:27 AM] that must have been poignant
[11:37:42 AM] Will: it was really good... not a dry eye in the house after
[11:37:51 AM] Will: i'd love to have a recording actually
[11:38:14 AM] Will: how much is trillian?
[11:38:18 AM] Will: $25 still?
[11:38:21 AM] yeah
Send
Last message received on 4/26/2005 at 11:38 AM.

Extensibility: If *Trillian Pro* excels at one thing, it's extensibility. As of this writing, the *Trillian* web site lists more than 100 skins and 40 plugins. Skins are easily installed by unzipping them into your *Trillian* skins folder, while plugins come packed as simple executables. When you compare *Trillian Pro*'s veritable treasure trove of plugins and skins to *Gaim*'s lackluster offerings, the choice is obvious. **Winner: Trillian Pro**

Ease-of-use and interface: The default interface that comes with *Trillian Pro* is attractive and modern, but just in case it's not to your liking, you can choose from dozens of freely available skins. The bad news is that *Trillian* can be frustratingly difficult to use. Many *Trillian* settings are hard to find or are located in unintuitive places. For example, to change your sound options you must open the Preferences window, click Advanced Preferences, and then click Automation. That's not exactly where we'd expect to find sound settings. **Winner: Gaim**

Value: Considering how powerful *Trillian Pro* is, we feel that $25 is reasonable, especially for folks who live and die by instant messaging. Still, there's no getting around the fact that *Gaim* is free and *Trillian Pro* isn't, so *Gaim* takes this category. Cerulean Studios offers a stripped-down "basic" version of *Trillian* for free, but it lacks plugin support and some of *Trillian Pro*'s coolest features, such as MetaContacts. **Winner: Gaim**

MAXIMUM PC VERDICT 9

+ MONOPOLY THE GAME

Good network compatibility; tons of plugins and skins; some kick-ass features.

– TICKETMASTER THE MONOPOLY

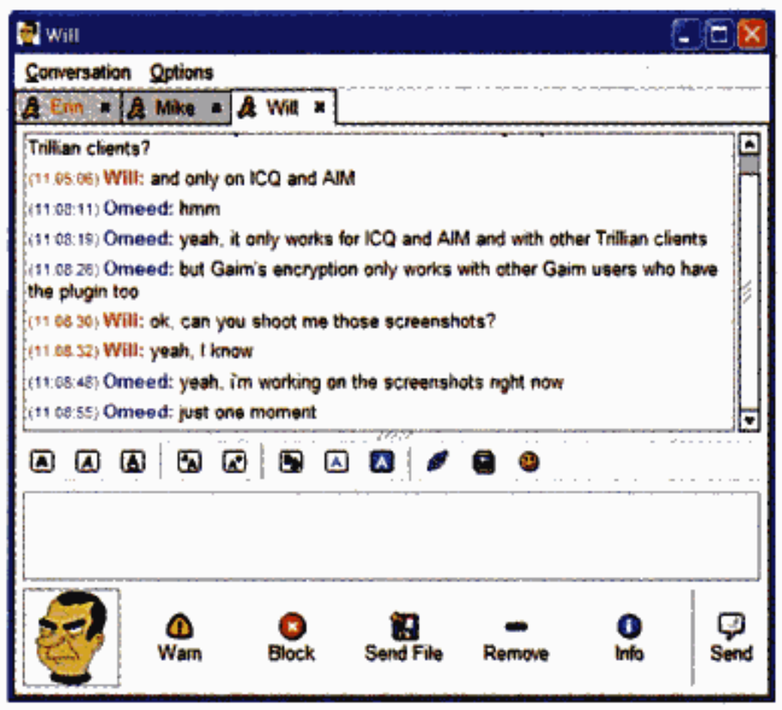
Occasional quirks with file transfers; confusing user interface.

$25, www.trillian.cc

Gaim 1.2.1

Protocols supported: *Gaim's* compatibility looks equal to *Trillian's* on paper; it's able to interface with AIM/ICQ, MSN, Yahoo!, IRC, Jabber, Novell GroupWise, and a few lesser-known networks. Sadly, *Gaim* doesn't measure up quite so well in real-world testing. File transfers are flaky at best, working about two thirds of the time and usually going slower than in *Trillian*. Only the most rudimentary capabilities of each protocol are supported, so forget about using *Gaim* for audio or video chats. *Trillian's* protocol support isn't perfect either, but it's hard to criticize when *Gaim's* is so much worse. **Winner: Trillian Pro**

Features: *Gaim* sports a number of useful amenities, such as integrated spell check, tabbed instant messaging, and a "buddy pounce" feature that can perform specified actions when one of your contacts logs on. You'll even find a feature that allows you to merge multiple screen names into a single contact à la *Trillian's* MetaContacts, though it's more difficult to use. We still wish *Gaim* included sign on/sign off notification windows and encrypted IM support in its default trim, instead of requiring plugins to add those functions. **Winner: Trillian Pro**


Will
Conversation Options
Erin
Mike
Will
Trillian clients?
(11:05:06) Will: and only on ICQ and AIM
(11:08:11) Omeed: hmm
(11:08:19) Omeed: yeah, it only works for ICQ and AIM and with other Trillian clients
(11:08:26) Omeed: but Gaim's encryption only works with other Gaim users who have the plugin too
(11:08:30) Will: ok, can you shoot me those screenshots?
(11:08:32) Will: yeah, I know
(11:08:48) Omeed: yeah, i'm working on the screenshots right now
(11:08:55) Omeed: just one moment
Warn
Block
Send File
Remove
Info
Send

Value: One thing *Gaim* definitely has going for it is its price; after all, you really can't get any better than free. Not only that, but *Gaim* also has better platform support than *Trillian*, with versions available for both Windows and Linux. And if you're willing to compile the software yourself, *Gaim* should work just fine on MacOS X. **Winner: Gaim**

Extensibility: Because *Gaim's* user interface was developed using the GIMP Tool Kit (GTK), you can download a GTK theme selector to change your skin for all GTK-based apps, including *Gaim*. (We found one at **http://members.lycos.co.uk/alexv6**.) GTK theme switching is a real hassle compared to *Trillian's* easy-to-use integrated skin support. *Gaim* does support plugins, but the available selection is pitiful. Most of the plugins add functionality that should have been built into the client, such as encrypted messaging. Call us spoiled, but after sampling *Trillian Pro's* straightforward skin system and vast array of plugins, our standards are higher. **Winner: Trillian Pro**

Ease-of-use and interface: *Gaim's* interface may not be as flashy and modern as *Trillian's*, but we found it to be more intuitive and easier to use. The settings window is organized more logically than *Trillian's*, though it doesn't offer as much control over the behavior of the client—you can't even change the folder where *Gaim* stores your conversation logs. **Winner: Gaim**

MAXIMUM PC VERDICT 7

+ REALLY LONG MASSAGES

Free; clean interface.

– REALLY LONG MESSAGES

Limited network features; meager plugin options; no built-in skin capability; buggy protocol support.

Free, gaim.sourceforge.net

THE UPSHOT

A simple tally of the number of categories won would seem to indicate that this is a very close contest—so why the discrepancy in verdicts? Quite simply, we feel that some categories are more important than others. Proper support for each of the IM networks is far and away the most critical element of a multi-protocol IM client, and *Gaim* just doesn't measure up in that respect. We also love *Trillian Pro's* superior customizability, courtesy of its built-in skin support and impressive library of plugins.

That's not to say *Gaim* is worthless. If you use only the most basic aspects of instant messaging and have no need for advanced features like video conferencing, *Gaim* is definitely worth a try. But if you're a heavy IM user and don't mind spending $25 (which includes a year of free updates), *Trillian Pro* is absolutely the way to go. It's powerful, loaded with useful features, and significantly more mature than *Gaim*. ■

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WatchDog

Say hello to **Margo**, WatchDog of the Month

Maximum PC takes a bite out of bad gear

THIS MONTH: The WatchDog goes after...

>Intuit >Speaker Buzz >Iebuz.net >Softzion.net

Don't Let My Software Sunset on Me...

DEAR DOG: The Dog has probably received letters about this topic before, but I don't recall seeing one in the last four years I've been reading *Maximum PC*. I recently found out about the Intuit *Quicken* "sunset policy," which, after a period of time, not only ceases technical support for older versions of *Quicken* (meaning the 2002 version), but also effectively deactivates or breaks a lot of the now-working features of those versions, including the ability to download data from financial institutions.

This seems like a complete scam and extortion to make loyal *Quicken* customers buy more of Intuit's products. Even worse, with each year, you get less life out of the product you paid for. *Quicken 2001's* lifespan was four years, whereas the 2002 version is three years. Has the Dog investigated this topic?

— GUILLERMO ZAVALA

THE DOG RESPONDS: Intuit's policy of "sunsetting," or killing, the online services for its popular products isn't a new issue, but it sure does raise the ire of users whenever the sunset dates roll around. When contacted by the Dog about the policy, an Intuit spokesman directed the Dog to *Quicken's* online FAQ regarding sunsetting (http://web.intuit.com/support/quicken/sunset/), and rationalized the policy as part of a numbers game. It takes bodies to maintain and keep those services running, the spokesman said; and if resources are being devoted to the support of a 3-year-old version of *Quicken* they won't be going to, say, the development of *Quicken 2007*. "By supporting [software] from more than three years ago, we're taking support away from customer-driven invention."

Intuit's official policy is to support the current version of *Quicken* plus two versions back. The spokesman also said that, of the 16 million people who now use *Quicken*, less than one percent still uses *Quicken 2003*. And in a dig at its competition, the Intuit spokesman said that at least Intuit's policy is better than Microsoft's, which cuts off online features after two years. (The Dog verified that Microsoft indeed offers only two years of online support.) So what do you do if your *Quicken 2003* just expired and you can't download bank statements or use the online checking? Intuit's fix is for you to buy the latest version, Bub. The company does give you a $20 discount and will even help you install it "free of charge." And to ensure you aren't left in the lurch, Intuit provides pop-up expiration notices and e-mails warning its customers that the end is nigh.

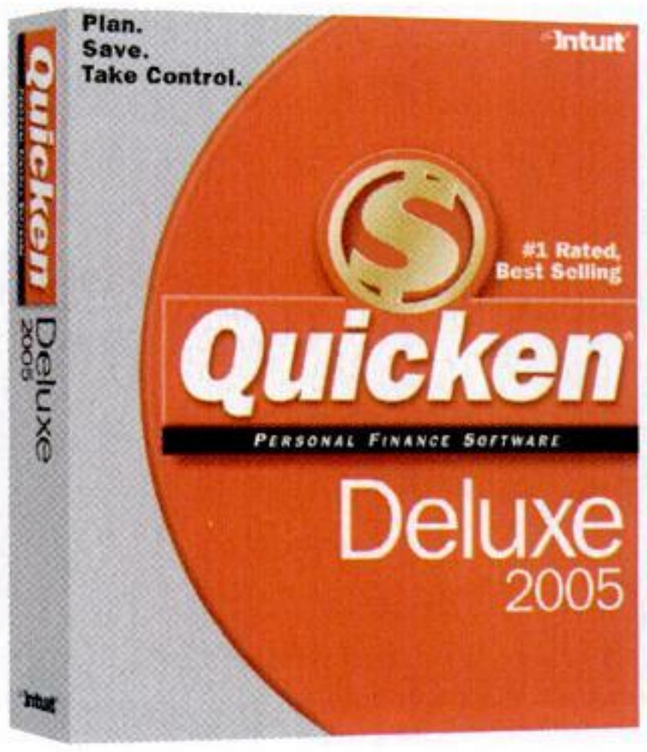
What does the Dog think about this? It's pretty much a forced upgrade program. With the online automation features turned off, *Quicken* is essentially useless as a financial-tracking device. Intuit can argue that the $20 upgrade fee (for *Quicken Deluxe* users) is reasonable, but it's tantamount to a subscription model.

There's no industry standard dictating the length of time online functionality should be supported for such programs. In fact, it's likely the support period will only get shorter, according to Merrill R. (Rick Chapman), author of the book *The Product Marketing Handbook for Software*, *In Search of Stupidity: Over 20 Years of High-Tech Marketing Disasters* and managing editor of the industry newsletter *SoftLetter*. Chapman said Intuit and Microsoft are following what others are doing already. "It started with the antivirus people," Chapman said; "they were the pioneers [of yearly updates]."

In the 1990s, most companies would support their products for quite some time, but with today's applications being less reliant on the desktop and more reliant on Internet-based updates and features, "[companies] can darn well screw you any time they want to," Chapman said.

What especially irritates the Dog is that neither Intuit nor Microsoft discloses on the product packaging that online services will eventually be cut off. Intuit says notification is on the end-user license agreement, but that's only available to consumers after they've purchased the box and opened it. And once you've opened the box, you can't return it to any retailer.

Is there anything that can be done? Chapman said consumers have to either get used to taking it in the shorts every year or two, or shop elsewhere. The latter sounds like a good idea to the Dog. Woof.



Intuit's policy of turning off features in *Quicken* after three years is rankling consumers.

> ***"THIS SEEMS LIKE A COMPLETE SCAM AND EXTORTION TO MAKE LOYAL QUICKEN CUSTOMERS BUY MORE OF INTUIT'S PRODUCTS."***

Buzz off!

DEAR DOG: The mention of radio noise problems with Altec Lansing speakers in the May issue of *Maximum PC* reminds me of the troubles I had recently. I like to listen to a local station at 640KHz AM. One day the station was masked by a buzzing sound. I determined that the problem was associated only with circuit breaker 7. On that circuit were two ground fault interrupters, a motion detector security light, a patio light and outlet, a phone answering machine, a waterbed heater, and a TV.

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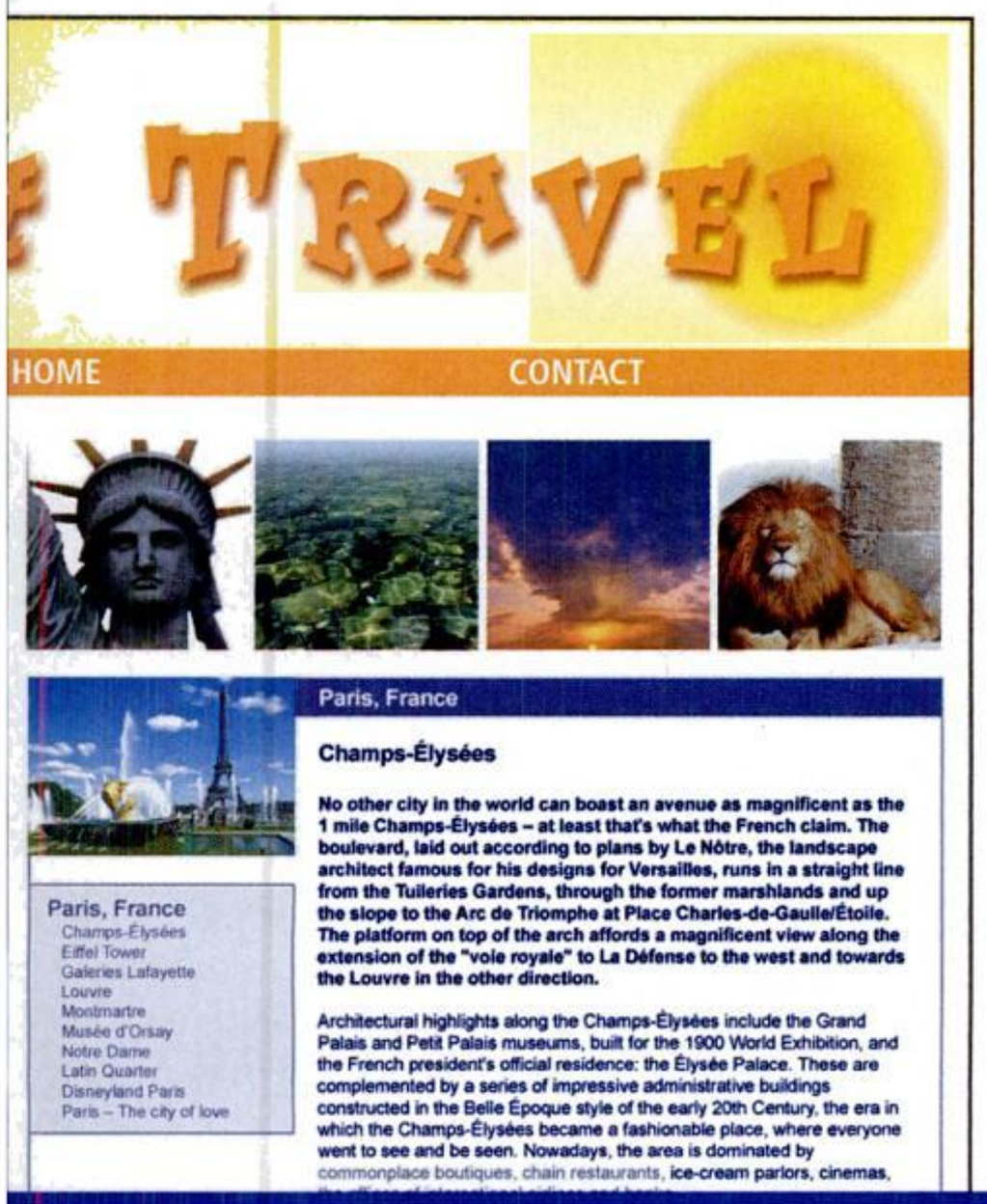
TRAVEL
HOME
CONTACT
Paris, France
Champs-Élysées
No other city in the world can boast an avenue as magnificent as the 1 mile Champs-Élysées – at least that's what the French claim. The boulevard, laid out according to plans by Le Nôtre, the landscape architect famous for his designs for Versailles, runs in a straight line from the Tuileries Gardens, through the former marshlands and up the slope to the Arc de Triomphe at Place Charles-de-Gaulle/Étoile. The platform on top of the arch affords a magnificent view along the extension of the "voie royale" to La Défense to the west and towards the Louvre in the other direction.
Architectural highlights along the Champs-Élysées include the Grand Palais and Petit Palais museums, built for the 1900 World Exhibition, and the French president's official residence: the Élysée Palace. These are complemented by a series of impressive administrative buildings constructed in the Belle Époque style of the early 20th Century, the era in which the Champs-Élysées became a fashionable place, where everyone went to see and be seen. Nowadays, the area is dominated by commonplace boutiques, chain restaurants, ice-cream parlors, cinemas,
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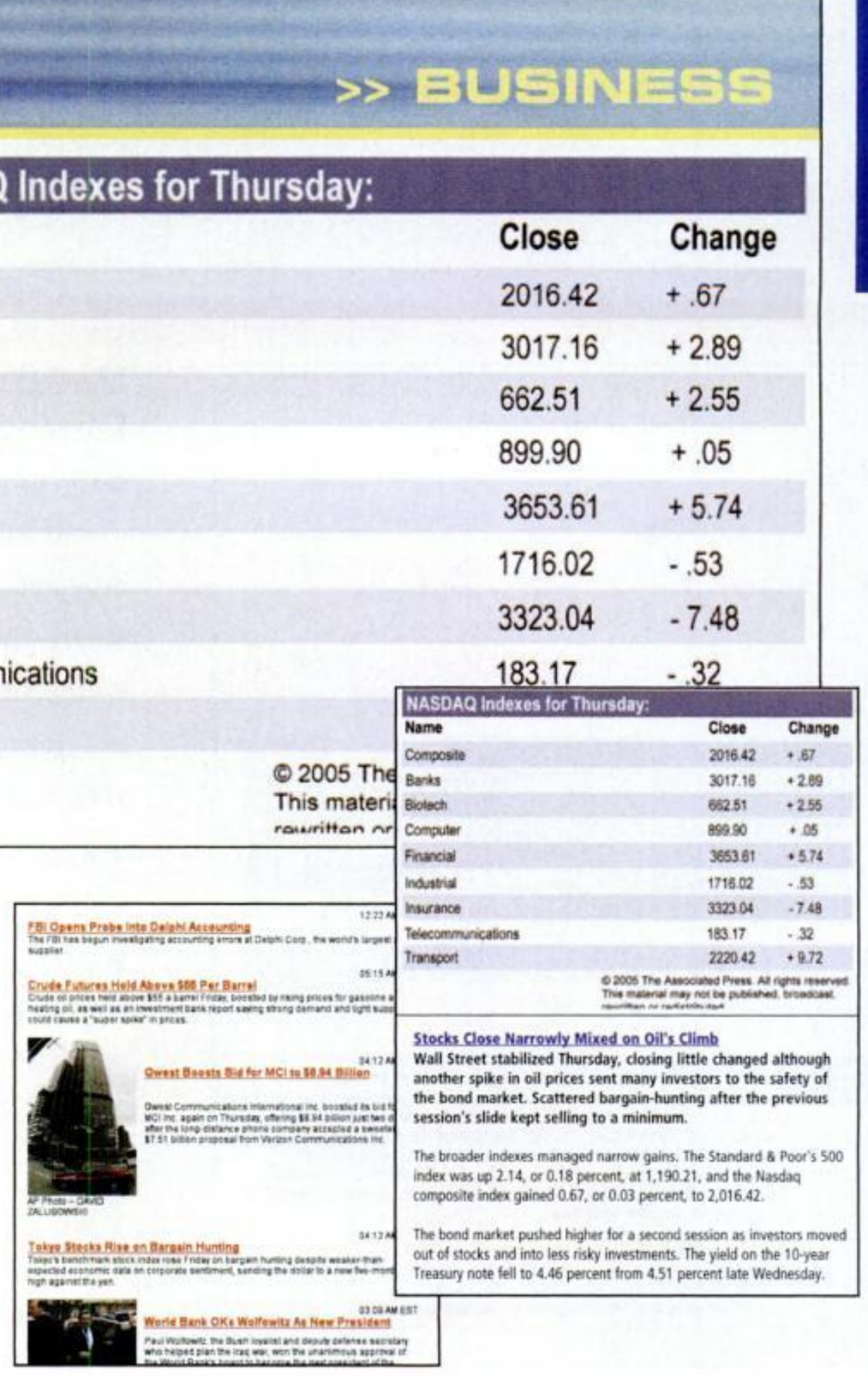
NASDAQ Indexes for Thursday:
Name
Close
Change
Composite
2016.42
+ .67
Banks
3017.16
+ 2.89
Biotech
662.51
+ 2.55
Computer
899.90
+ .05
Financial
3653.61
+ 5.74
Industrial
1716.02
- .53
Insurance
3323.04
- 7.48
Telecommunications
183.17
- .32
Transport
2220.42
+ 9.72
Stocks Close Narrowly Mixed on Oil's Climb
Wall Street stabilized Thursday, closing little changed although another spike in oil prices sent many investors to the safety of the bond market. Scattered bargain-hunting after the previous session's slide kept selling to a minimum.
The broader indexes managed narrow gains. The Standard & Poor's 500 index was up 2.14, or 0.18 percent, at 1,190.21, and the Nasdaq composite index gained 0.67, or 0.03 percent, to 2,016.42.
The bond market pushed higher for a second session as investors moved out of stocks and into less risky investments. The yield on the 10-year Treasury note fell to 4.46 percent from 4.51 percent late Wednesday.
FBI Opens Probe Into Delphi Accounting
Crude Futures Hold Above $66 Per Barrel
Qwest Boosts Bid for MCI to $8.94 Billion
Tokyo Stocks Rise on Bargain Hunting
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boulevard, laid out accord
architect famous for his d
from the Tuileries Garden
the slope to the Arc de Tri
The platform on top of the
extension of the "voie roy
the Louvre in the other di

Architectural highlights alon
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the French president's offici
complemented by a series
constructed in the Belle Épo
which the Champs-Élysées
went to see and be seen. N
commonplace boutiques, ch
the offices of international a

Paris, France
- Champs-Élysées
- Eiffel Tower
- Galeries Lafayette
- Louvre
- Montmartre
- Musée d'Orsay
- Notre Dame
- Latin Quarter
- Disneyland Paris
- Paris – The city of love

04:08 AM EST

Top-Seeded Huskies to Meet Louisville

The Washington Huskies got an early start on playing at another level. The Huskies flew to Albuquerque, N.M., the site of their regional semifinal against Louisville, on Monday to get accustomed to the city's 5,314-foot altitude. The team normally would have left campus a day later to prepare for Thursday's game, but coach Lorenzo Romar wanted his players to build up their endurance.

AP Photo – GARY KAZANJIAN

04:12 AM EST

Arizona St. Shocks Notre Dame 70-61

Arizona State's aggressive defense, timely shooting and gritty determination earned the Sun Devils that coveted trip home for the Tempe Regional.

03:53 AM EST

NFL Committee Makes 18

Today | Tomorrow | 2 Days | 3 Days | 4 D

Monday, April 18, 2005

Temperature:	Weather:
62°	partly sun
Wind:	Wind Directio
2 mph	NW
Chance of Precipitation:	UV Index:
10%	3

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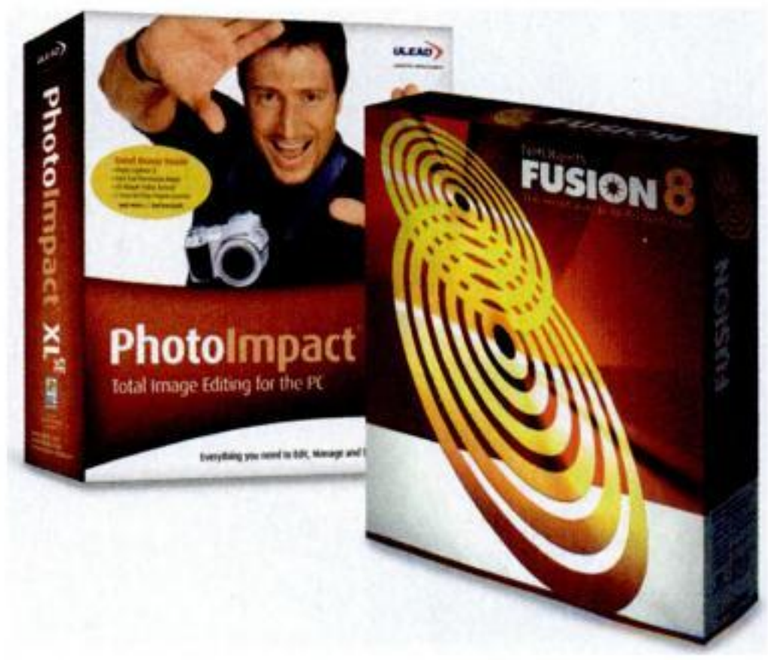

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Let animation take your site from the ordinary into the extraordinary. With the sensational DynamicSiteCreator from 1&1, building animated sites is simple – at last! Easily create a flash site in minutes and amaze your visitors with visual effects that add movement, intrigue and excitement.

PDF2Web Converter

Do you wish you could turn your PDF brochure into a fully functioning website? Now you can with the PDF2Web Converter from 1&1. Convert PDF files into professional-quality web pages with just a few clicks.

*$6.99 shipping and processing fee applies

1.877.GO1AND1

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YOUR WEBSITE

Enhance your Website & Increase Communication

Your 1&1 shared hosting package gives you the tools you need to effectively communicate with your customers and site visitors, keep them interested and keep them coming back for more. Connect with your visitors through live interaction, feedback forms, e-mail newsletters and more. These tools are so easy to use that no programming knowledge is needed!

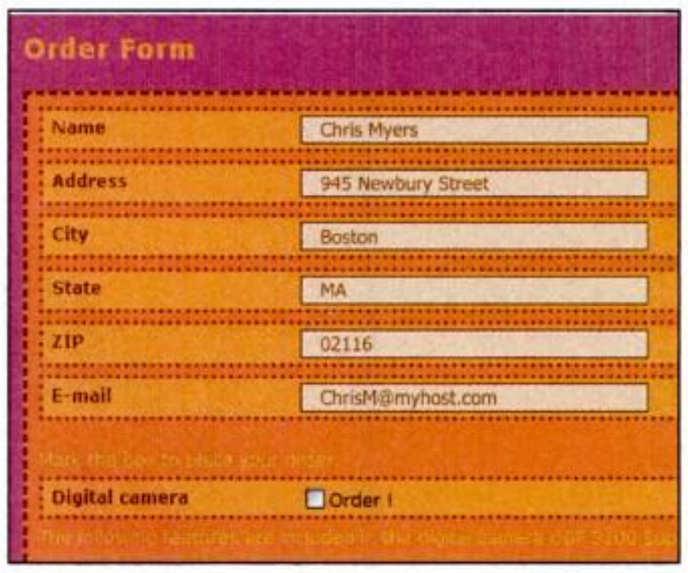
In2site Live Dialogue

Wouldn't it be great if you could chat to your visitors while they are using your website – live and in real time? You can with In2site Live Dialogue from 1&1. Support your visitors as they use your site. Quick and easy communication makes In2site Live Dialogue an invaluable tool for sales, support, and consulting professionals.

Online-User
User-Details
Owner: Welcome to my website! I see you are interested in finding a pet. Can I answer any questions for you?
Customer: Yes, I'm looking for a purebred dog and I'm not sure which is best with children. The Golden Retriever or the Teacup Poodle?
Owner: The retriever is more patient with younger children than the poodle. Click on our family-friendly dogs section for more details on other breeds as well.

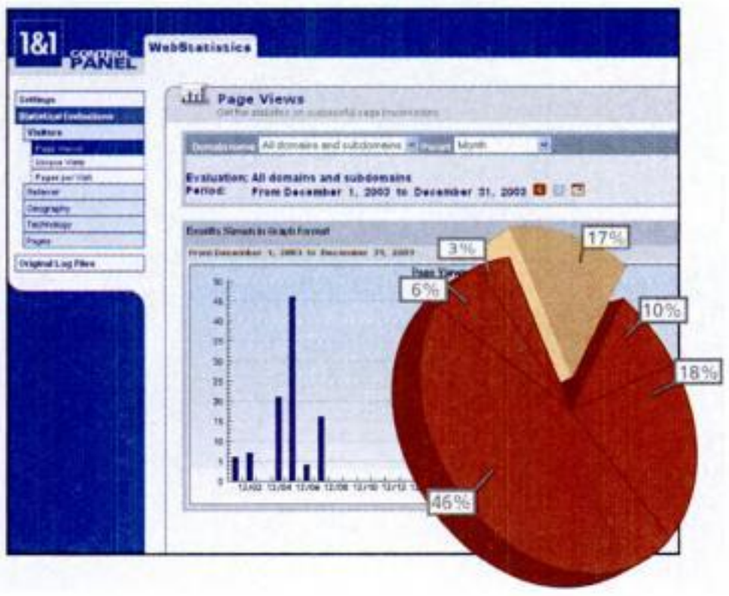
1&1 WebElements

Adding template-driven contact forms, online polls, event registrations and more to your site is a breeze with 1&1 WebElements. Adapt the templates to fit your site or be creative and easily build your own forms for any purpose! The information that your visitors enter is saved in a special Internet database, so you can view the results at any time.



1&1 WebStatistics

Understand visitor dynamics with 1&1 WebStatistics. Gather all of the information you need and generate a detailed analysis of how your website is performing. Display the information in the format you choose – pie charts, bar graphs, or simple numeric output. Use the data to improve navigation and maximize the success of your site!



1&1 Newsletter tool

E-mail newsletters provide an easy, cost-effective way to build and maintain relationships with your site visitors. The 1&1 Newsletter Tool lets you create and send professional-looking e-mails – with no programming hassles! You'll get everything you need to build your own mailing list, manage recipients' addresses, track results and more.

YOUR LOGO
newsletter
Let the 1&1 Newsletter Tool help you build and maintain a relationship with your visitors via e-mail newsletters. An ideal way to keep your customers up-to-date about your newest products, exciting finds and upcoming events, e-mail newsletters keep them coming back for more!
How does it work?
To access the Newsletter Tool, simply login to your Control Panel and you're just steps away from communicating with your website visitors more easily than ever before. And since the 1&1 Newsletter Tool is browser-based and launches right from your Control Panel, there's no software to install.
When you're ready to build an e-mail newsletter, editing tools and built-in design templates let you create professional looking e-mails quickly and with no programming knowledge. Then check your completed newsletter in test mode and click send!
We even include tools to build your own mailing list! Simply incorporate a template-driven subscription form on your site so interested visitors can quickly request to receive your e-mail newsletters. Once the form is submitted, the data is automatically entered into a

These tools are included with the Business and Developer Shared Hosting Packages.

FOR MORE DETAILS GO TO 1AND1.COM

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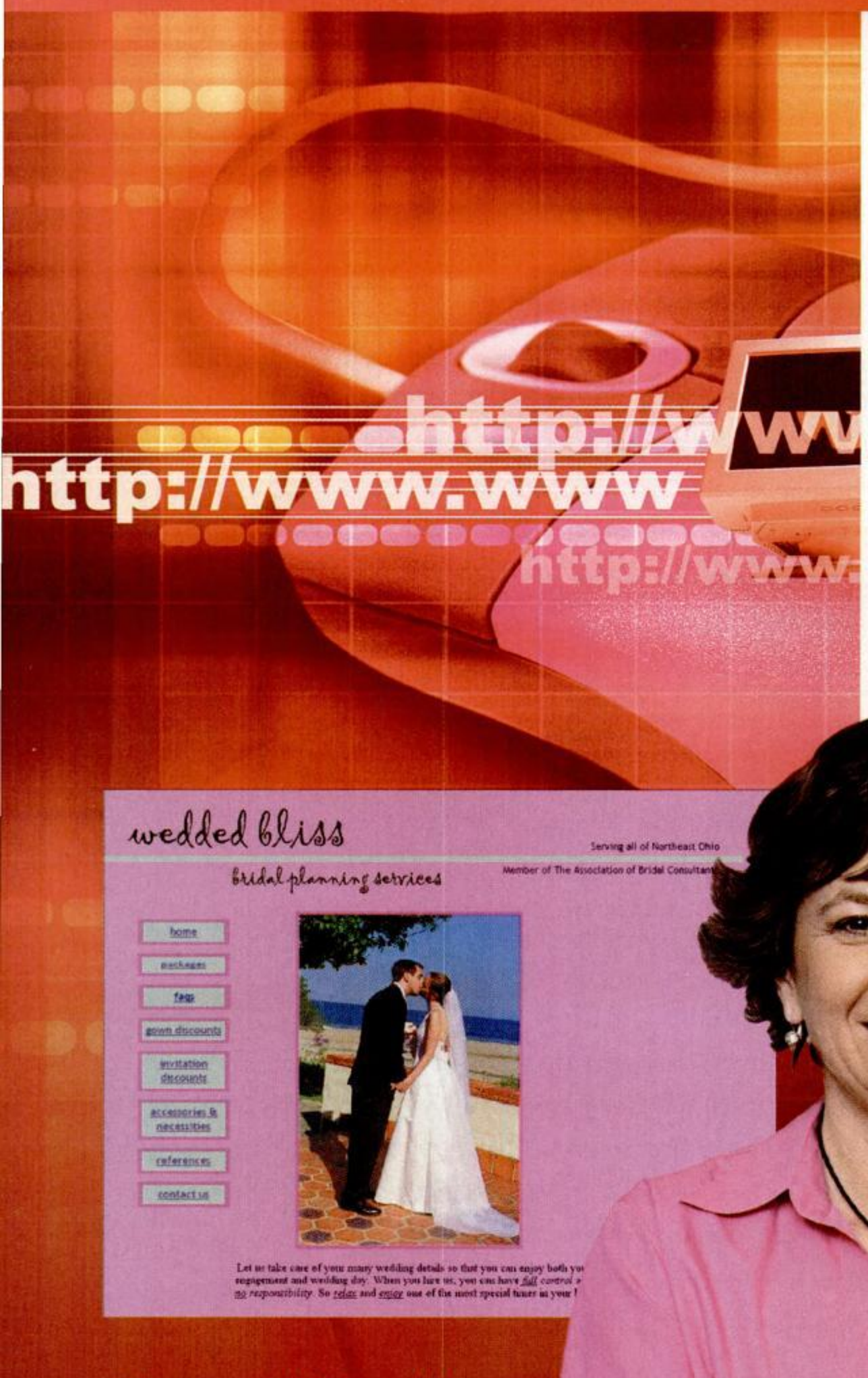
1&1 HOSTING



Affordable, all-inclusive, feature-packed hosting from 1&1.

1&1's Microsoft and Linux shared hosting packages offer the best value for your money. Whether you're a novice Internet user or operate a heavily trafficked site, 1&1 has a hosting package that will help you make the most of your web experience.

Home Package

Ideal for creating your family website and publishing your photos or hobbies to the Internet.

Business Package

The easy way for small and medium-sized businesses to build a sophisticated, professional web presence.

Developer Package

Packed with the latest Internet technologies to build powerful, secure and reliable web applications.

wedded bliss
Serving all of Northeast Ohio
bridal planning services
Member of The Association of Bridal Consultant
home
packages
faqs
gown discounts
invitation discounts
accessories & necessities
references
contact us
Let us take care of your many wedding details so that you can enjoy both yo
engagement and wedding day. When you hire us, you can have full control
no responsibility. So relax and enjoy one of the most special times in your

$600 Productivity Software Suite INCLUDED*

*\$6.99 shipping & processing fee applies

"I have very little knowledge about website design and 1&1 made it easy for me to create and post my own website. I have been very pleased with 1&1."

Angela Evans
www.weddedblissplanning.com

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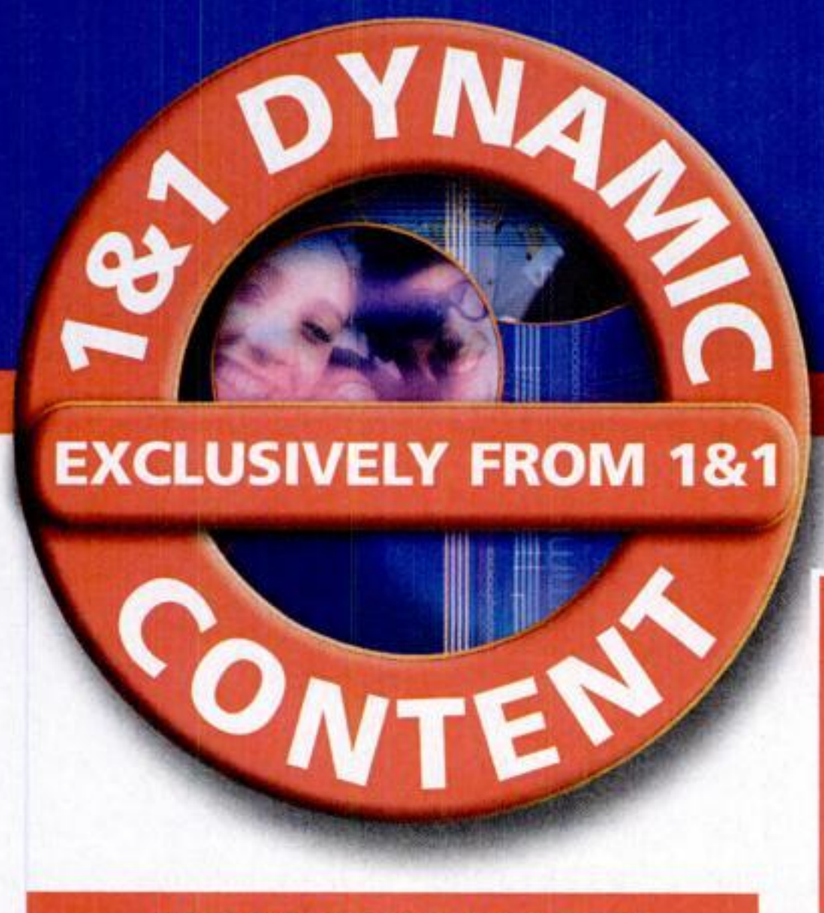

MONEY BACK GUARANTEE

90-DAY MONEY BACK GUARANTEE

100% Satisfaction or your Money Back

HOME PACKAGE

$4.99 PER MONTH

No setup fee

INCLUDES 1 DOMAIN

PACKAGE FEATURES		
Web space	1,000 MB	1,000 MB
Monthly transfer volume	25 GB	25 GB
FTP accounts	1	1
1&1 Control Panel	✓	✓
Logfiles	✓	✓
MARKETING TOOLS		
Chat channels	1	1
1&1 WebStatistics	✓	✓
SITE-BUILDING TOOLS		
1&1 Dynamic Content Catalog	✓	✓
PDF2Web Converter	✓	✓
DynamicSiteCreator	✓	✓
Graphic archive	✓	✓
WebsiteCreator	12 pages	12 pages
Software suite worth $600	✓	✓
FrontPage extensions	✓	✓
CGI library	✓	✓
Active Server Pages	–	✓
DOMAIN NAMES		
Included Domains	1	1
Subdomains	10	10
Run multiple independent sites	✓	✓
Full DNS management	✓	✓
E-MAIL		
E-mail accounts w/ 1 GB space each	200	200
Aliases, auto-responders, forwarding	✓	✓
1&1 WebMail	✓	✓
Spam filtering for all accounts	✓	✓
Virus protection for all accounts	✓	✓
SECURITY FEATURES		
Protected by up-to-date firewall	✓	✓
Daily backups	✓	✓
Password protected directories	✓	✓
Dedicated SSL Certificate	optional	optional
SUPPORT		
24/7 phone support	✓	✓
24/7 e-mail support	✓	✓

BUSINESS PACKAGE

$9.99 PER MONTH

No setup fee

INCLUDES 3 DOMAINS

PACKAGE FEATURES		
Web space	2,000 MB	2,000 MB
Monthly transfer volume	50 GB	50 GB
FTP accounts	5	5
1&1 Control Panel	✓	✓
Logfiles	✓	✓
MARKETING TOOLS		
Chat channels	5	5
1&1 WebStatistics	✓	✓
In2site Live Dialogue	✓	✓
1&1 Newsletter Tool	✓	✓
1&1 WebElements	✓	✓
SITE-BUILDING TOOLS		
1&1 Dynamic Content Catalog	✓	✓
PDF2Web Converter	✓	✓
DynamicSiteCreator	✓	✓
Graphic archive	✓	✓
WebsiteCreator	18 pages	18 pages
Software suite worth $600	✓	✓
FrontPage extensions	✓	✓
CGI library	✓	✓
Active Server Pages	–	✓
Perl, PHP3, PHP4, and PHP5	✓	–
1&1 WebDatabase	✓	✓
Database	1 MySQL	MS Access
Cron Jobs	✓	–
SSI (Server side includes)	✓	✓
DOMAIN NAMES		
Included Domains	3	3
Subdomains	50	50
Run multiple independent sites	✓	✓
Full DNS management	✓	✓
E-MAIL		
E-mail accounts w/ 1 GB space each	500	500
Aliases, auto-responders, forwarding	✓	✓
1&1 WebMail	✓	✓
Spam filtering for all accounts	✓	✓
Virus protection for all accounts	✓	✓
SECURITY FEATURES		
Protected by up-to-date firewall	✓	✓
Daily backups	✓	✓
Password protected directories	✓	✓
SSH Secure Shell Access	✓	–
Dedicated SSL Certificate	optional	optional
SUPPORT		
24/7 phone support	✓	✓
24/7 e-mail support	✓	✓

DEVELOPER PACKAGE

$19.99 PER MONTH

No setup fee

INCLUDES 5 DOMAINS

PACKAGE FEATURES		
Web space	4,000 MB	4,000 MB
Monthly transfer volume	100 GB	100 GB
FTP accounts	25	25
1&1 Control Panel	✓	✓
Logfiles	✓	✓
MARKETING TOOLS		
Chat channels	10	10
1&1 WebStatistics	✓	✓
In2site Live Dialogue	✓	✓
1&1 Newsletter Tool	✓	✓
1&1 WebElements	✓	✓
SITE-BUILDING TOOLS		
1&1 Dynamic Content Catalog	✓	✓
PDF2Web Converter	✓	✓
DynamicSiteCreator	✓	✓
Graphic archive	✓	✓
WebsiteCreator	25 pages	25 pages
Software suite worth $600	✓	✓
FrontPage extensions	✓	✓
CGI library	✓	✓
Active Server Pages	–	✓
ASP.NET, .NET Framework	–	✓
Perl, PHP3, PHP4, and PHP5	✓	–
1&1 WebDatabase	✓	✓
Database	3 MySQL	MS Access, MS SQL
Cron Jobs	✓	–
SSI (Server side includes)	✓	✓
Perl Script Output Monitor	✓	–
Perl Syntax Checker	✓	–
DOMAIN NAMES		
Included Domains	5	5
Subdomains	200	200
Run multiple independent sites	✓	✓
Full DNS management	✓	✓
E-MAIL		
E-mail accounts w/ 1 GB space each	1,000	1,000
Aliases, auto-responders, forwarding	✓	✓
1&1 WebMail	✓	✓
Spam filtering for all accounts	✓	✓
Virus protection for all accounts	✓	✓
SECURITY FEATURES		
Protected by up-to-date firewall	✓	✓
Daily backups	✓	✓
Password protected directories	✓	✓
SSH Secure Shell Access	✓	–
Dedicated SSL Certificate	✓	✓
SUPPORT		
24/7 phone support	✓	✓
24/7 e-mail support	✓	✓

– Linux packages – Microsoft packages

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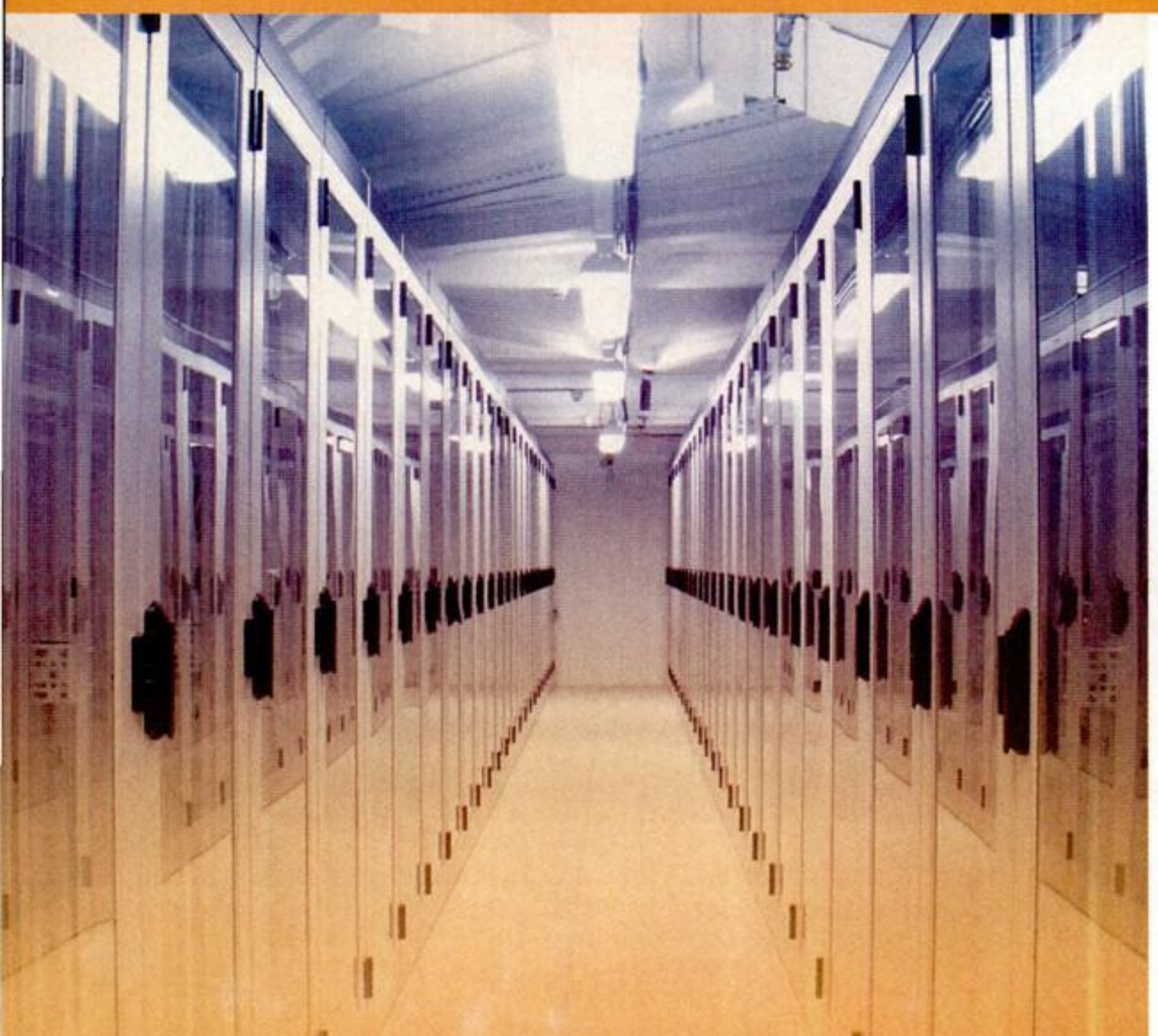
1&1 SERVERS



1&1 Dedicated Servers – Delivering More Than Ever!

Take your web presence to the next level! 1&1 Root Servers and 1&1 Windows Server 2003 put you in the driver's seat with total control. Or sign up for a 1&1 Managed Server and let 1&1 handle all the server maintenance and administration. And now, you can accomplish more than ever online with more included features, more power, and more value for your money.

NEW! More Server Power

All 1&1 Servers have been powered up with boosted bandwidth of up to 1,500 GB and memory upgrade of up to 2,048 MB DDR-RAM.

NEW! 1&1 Firewall

Based on Cisco hardware, this fully configurable security feature helps prevent attacks by filtering traffic before it even reaches your server.

NEW! Backup – No Extra Charge

Backup space matches your server's hard drive size so you can backup and protect all of your data. And, you pay nothing extra!

NEW! GeoTrust Dedicated SSL Certificate

An original GeoTrust Dedicated SSL Certificate is now included with all 1&1 Servers. Additional certificates can be purchased from 1&1 for just $49 per year.

NEW! Serial Console

Through the SSH client, you can gain access to your server even if the network connection is interrupted.

NEW! 1&1 Root Server: Re-image

If the pre-installed operating system doesn't meet your needs, you can choose another pre-configured, Linux-based operating system and install it through the 1&1 Control Panel.

NEW! 1&1 Windows Server 2003: Rescue Image

Repair and restore damaged systems via a Java-compatible browser or VNC client.

NEW! Additional Bandwidth – Price Reduced

1&1 includes a generous amount of monthly transfer volume. Should you exceed the limit, additional bandwidth is now available at half the price – just $0.49/GB!

LearnOpenOffice.org
home
tutorials
membership
resources
login
contact
OpenOffice tutorials
OpenOffice is one of the coolest things to come along in a long time. It's powerful, flexible and its free.
Even though OpenOffice is free, you need to invest some time in learning OpenOffice, it's a fantastic program like any other program, it does take to learn.
This site provides comprehensive, based training for OpenOffice. The OpenOffice tutorials will teach you everything you need to know to be OpenOffice guru in just an hour or
Better, faster OpenOffice training
To make the learning process as efficient as possible, these OpenOffice tutorials are full-motion Flash movies that feature graphics, text and narrated audio. These courses were developed especially for the web.
If your experience is like most users, these tutorials will help you learn OpenOffice 2 to 5 times faster than other methods such as reading books or trying to figure it out on your own.
online
OpenOffice
tutorials

"Our experience with 1&1 has been outstanding. Even though we have a complex site, it runs well, was easy to set up and we have had no downtime since we deployed the site. It just works! The value you get for your money with 1&1 can't be beat."

Mike Roberts
www.learnopenoffice.org

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$600 Productivity Software Suite INCLUDED*

*$6.99 shipping & processing fee applies

1&1 ROOT SERVERS

For Maximum Flexibility and Control

- Plesk 7.5 Reloaded pre-installed
- Operating System: Fedora Core 2 Linux
- Recovery Tool: Smart reboot and restore capabilities
- 24/7 phone support

PLESK 7.5 RELOADED

1&1 MANAGED SERVERS

For Performance and Convenience

- Enjoy the features and ease of shared hosting with the power of a dedicated server
- Management, administration and maintenance by 1&1
- Easy administration through the 1&1 Control Panel
- 24/7 phone support

1&1 WINDOWS SERVER 2003

For Security and Reliability

- Windows Server 2003 Standard Edition with Server III (Web Edition with Server I & II)
- MSDE pre-installed
- .NET Framework already integrated
- 24/7 phone support

SERVER I ■ Intel Celeron 2.0 GHz ■ 512 MB DDR-RAM ■ 40 GB IDE hard drive ■ 1,000 GB monthly transfer volume	$69 PER MONTH	$79 PER MONTH	$89 PER MONTH
SERVER II ■ Intel Pentium 4, 2.4 GHz ■ 1,024 MB DDR-RAM ■ 80 GB IDE hard drive ■ 1,200 GB monthly transfer volume	$89 PER MONTH	$99 PER MONTH	$109 PER MONTH
SERVER III ■ Intel Pentium 4, 3.06 GHz Processor with Hyper-Threading ■ 2,048 MB DDR-RAM ■ 120 GB IDE hard drive ■ 1,500 GB monthly transfer volume	$119 PER MONTH	$129 PER MONTH	$149 PER MONTH

$99 one-time setup fee

FOR MORE DETAILS GO TO **1AND1.COM**

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1&1 eSHOPS

Easy, yet sophisticated e-commerce solutions.

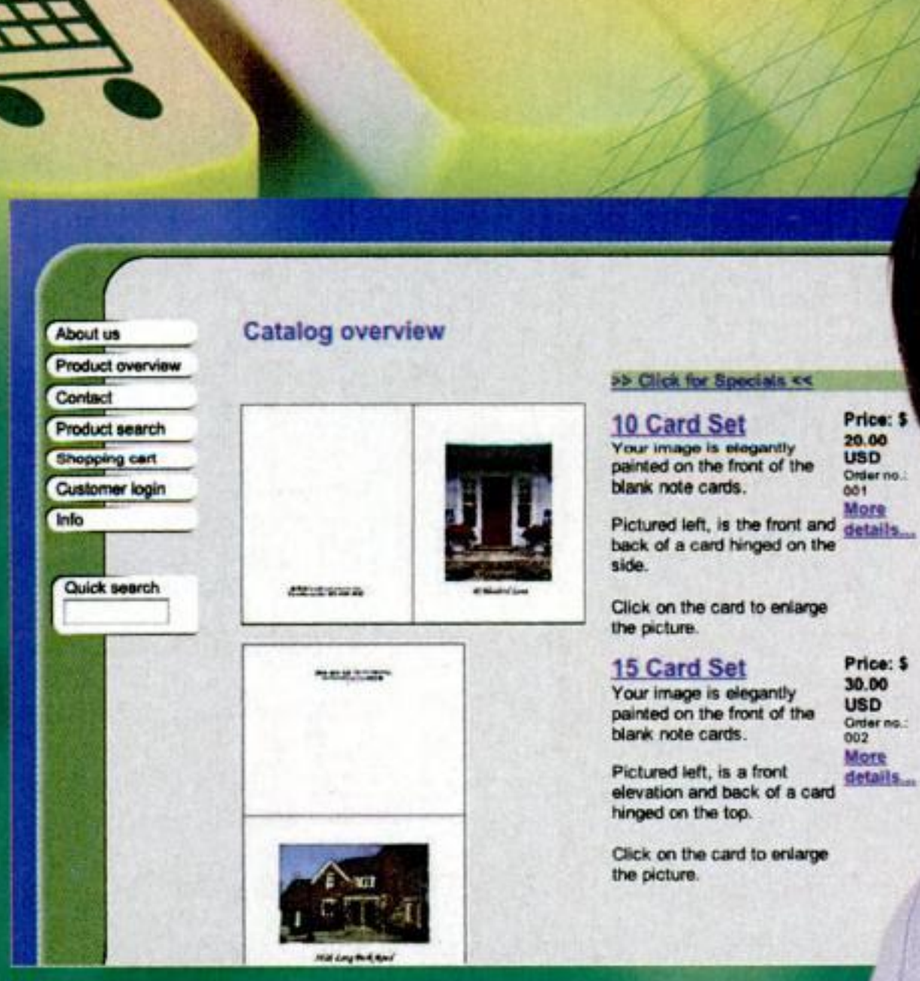
1&1 eShops are as powerful as any major online retailer, but with no software or hardware to install. Plus, 1&1 handles all the maintenance and updates so you can focus 100% on your online business.

Power & Simplicity

- **30+ shop templates.** Customizable with different fonts, colors and positioning.
- **No HTML knowledge needed.** Online wizards guide you through your shop setup, step-by-step.
- **Hosting included.** All the web space, bandwidth and e-mail accounts you need are included!

SSL secured

- All shop-based settings created in SSL secured pages
  - Maximum integrity of confidential data
  - Fully protected from third-party access


About us
Product overview
Contact
Product search
Shopping cart
Customer login
Info
Quick search
Catalog overview
>> Click for Specials <<
10 Card Set
Your image is elegantly painted on the front of the blank note cards.
Pictured left, is the front and back of a card hinged on the side.
Click on the card to enlarge the picture.
Price: $ 20.00 USD
Order no.: 001
More details...
15 Card Set
Your image is elegantly painted on the front of the blank note cards.
Pictured left, is a front elevation and back of a card hinged on the top.
Click on the card to enlarge the picture.
Price: $ 30.00 USD
Order no.: 002
More details...

Marketing Tools included!

Enhance your search engine placements with HelloEngines! and Ranking Toolbox, monitor the effectiveness of your AdWords campaigns with Google Conversion Tracking, help users find your products with Froogle Product Search, and much more!

"I'm very excited about the exposure our business has experienced through our new 1&1 website and registration with Froogle. Using the built-in templates, our eShop site was up and running, and ready to accept orders within hours. Setting up the order process and email addresses was very intuitive and easy to navigate."

Chris Kennedy
www.cardsophisticate.com

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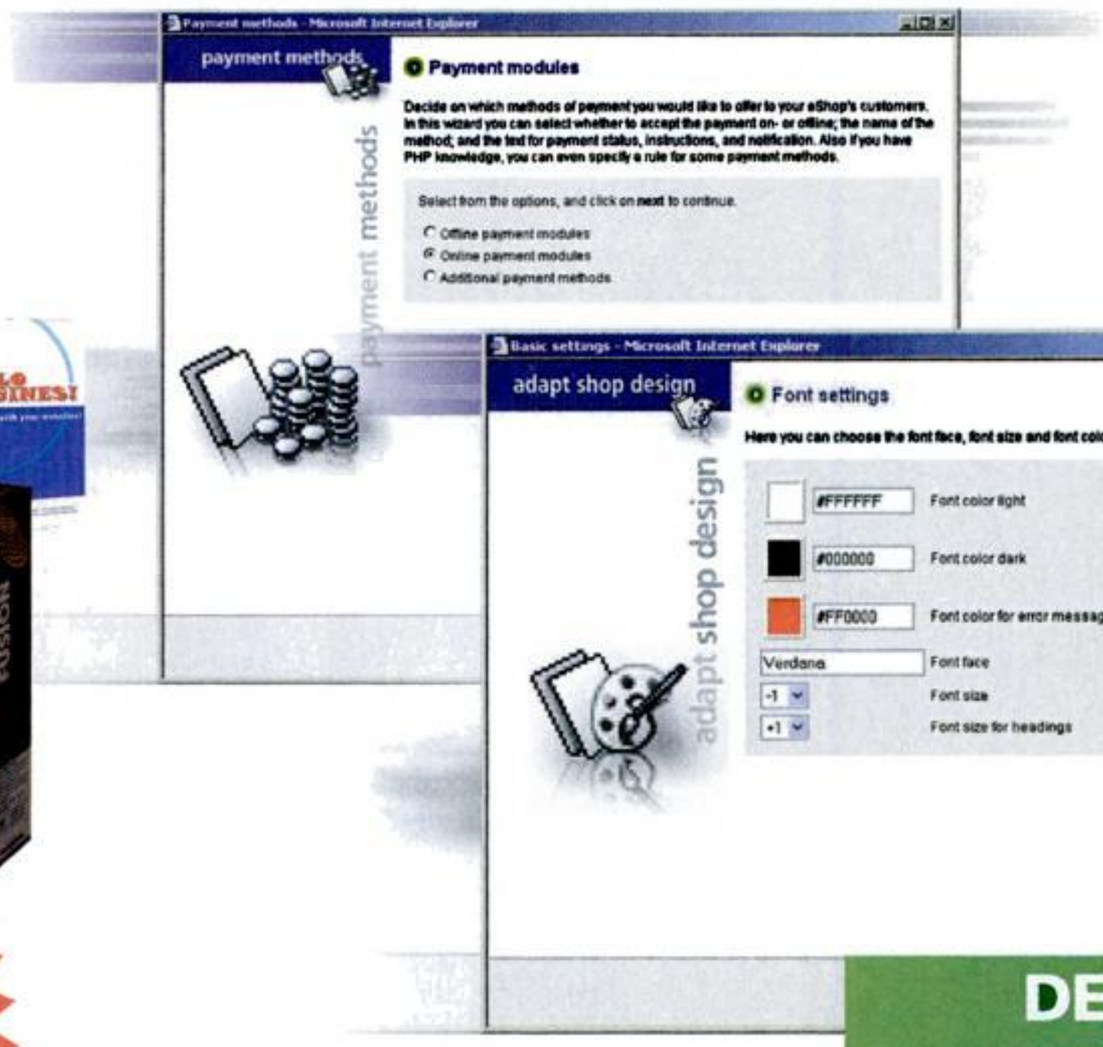
MONEY BACK GUARANTEE

90-DAY MONEY BACK GUARANTEE

100% Satisfaction or your Money Back


Payment methods - Microsoft Internet Explorer
payment methods
Payment modules
Decide on which methods of payment you would like to offer to your eShop's customers. In this wizard you can select whether to accept the payment on- or offline; the name of the method; and the text for payment status, instructions, and notification. Also if you have PHP knowledge, you can even specify a rule for some payment methods.
Select from the options, and click on next to continue.
Offline payment modules
Online payment modules
Additional payment methods
Basic settings - Microsoft Internet Explorer
adapt shop design
Font settings
Here you can choose the font face, font size and font colors used in your shop.
#FFFFFF
Font color light
#000000
Font color dark
#FF0000
Font color for error messages
Verdana
Font face
Font size
Font size for headings

$600 Productivity Software Suite INCLUDED*

BUSINESS eSHOP

- 50 MB web space
- 10 GB monthly transfer volume
- 50 item product catalog
- Choice of 2 shipping methods
- 24/7 phone support

No setup fee **$9.99** PER MONTH

PROFESSIONAL eSHOP

- 300 MB web space
- 30 GB monthly transfer volume
- 200 item product catalog
- Unlimited item variants
- Choice of 5 shipping methods
- Multiple currencies supported
- Import/export customer data
- No merchant account necessary with PayPal
- Accept secure online payments with PayPal and WorldPay
- Tax clearing server included (calculates taxes by state, county and city)
- Customer account management tools
- Easy account management for your customers
- 24/7 phone support

No setup fee **$29.99** PER MONTH

DEVELOPER eSHOP

- 1200 MB web space
- 60 GB monthly transfer volume
- Unlimited item product catalog
- Unlimited number and depth of sub-categories
- Unlimited shipping methods
- Multiple currencies supported
- Import/export customer data
- No merchant account necessary with PayPal
- Accept secure online payments with PayPal and WorldPay
- Tax clearing server included (calculates taxes by state, county and city)
- FTP access included
- Customer account management tools
- Easy account management for your customers
- Fully customizable templates
- GeoTrust Dedicated SSL Certificate included
- In2site Live Dialogue
- 24/7 phone support

No setup fee **$49.99** PER MONTH

*$6.99 shipping & processing fee applies

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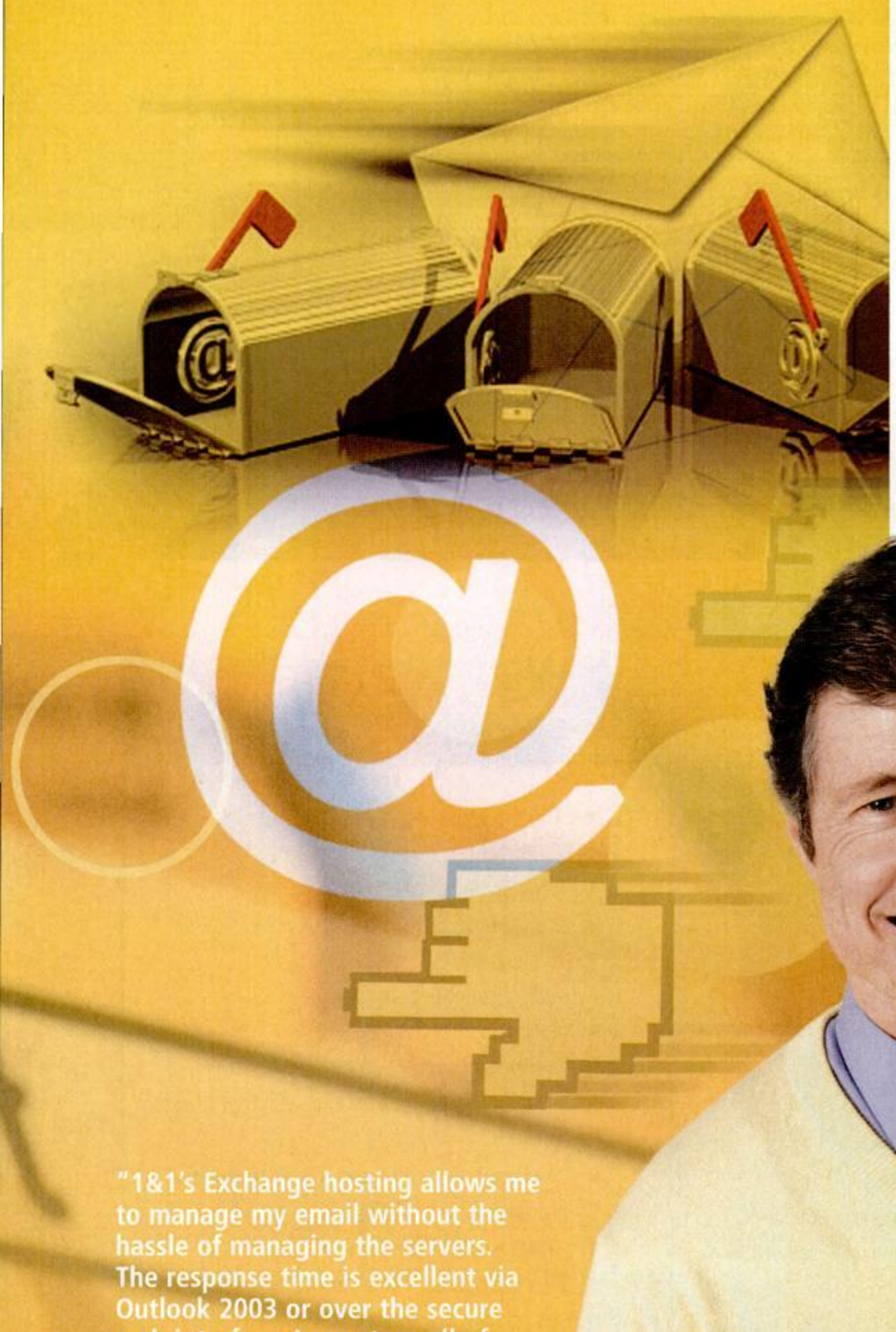
1&1 MAIL



Powerful e-mail for your home or business.

Whether you need e-mail for personal use or business use, 1&1 has your perfect solution. 1&1 Instant Mail allows you to send and receive personalized mail using your own domain name. 1&1 Microsoft Exchange Hosting gives you or your entire business reliable, affordable, up-to-date access to your critical information – anytime, anywhere.

Anytime web access

Never miss an important e-mail! 1&1 WebMail, included with 1&1 Instant Mail, delivers a simple and convenient way to send, receive, and manage e-mail from any Internet-connected computer. And, with 1&1 Microsoft Exchange Hosting you'll benefit from Outlook Web Access, a near-duplicate of the Outlook 2003 desktop client.

Superior e-mail protection

Don't let viruses and spam slow you down! 1&1 protects all e-mail accounts with customizable Virus Protection and Spam Filtering.

Massive 1 GB mailbox capacity

All 1&1 e-mail accounts include 1 GB mailbox space, so you can send, receive and store all your electronic correspondence – even those with large attachments!

"1&1's Exchange hosting allows me to manage my email without the hassle of managing the servers. The response time is excellent via Outlook 2003 or over the secure web interface. I can store all of my messages and attachments with plenty of room to spare. The included virus protection and spam filters keep my junk mail down and my productivity up! Group functionality integrates my calendar with others so we can keep up-to-date. 1&1's Exchange hosting is the best email toolset I've used."

Greg Duffie

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MONEY BACK GUARANTEE

90-DAY MONEY BACK GUARANTEE

100% SATISFACTION OR YOUR MONEY BACK

1 GB MAILBOX SPACE

1&1 INSTANT MAIL

Mail in an Instant!

What does your ambiguous e-mail address say about you? Are you ready to take your personal e-mail to a more professional level? Then 1&1 has your solution. Simply sign up for 1&1 Instant Mail and then add on your domain. In just minutes you'll have the power to send and receive e-mail from your own domain name.

- 5 e-mail accounts with 1 GB space each – IMAP & POP supported
- Spam filter included for all 5 accounts
- Virus protection for all 5 accounts
- 10 e-mail aliases
- Includes 1&1 WebMail – access mail anytime from anywhere
- Send and receive e-mail from your domain
- Easy setup via the 1&1 Control Panel
- 24/7 phone support

No setup fee **$0.99** PER MONTH

1&1 EXCHANGE HOSTING

Exchange made easy!

Your Microsoft Exchange Hosting Plan from 1&1 lets you enjoy the communication and collaboration features and benefits of Microsoft Exchange without the hassles of maintaining your own Microsoft Exchange server. Read, send and receive e-mail and access your public folders, contacts and calendars at anytime, from anywhere via Microsoft Outlook® or any web browser.

- Includes 1 Exchange account
- 1 GB e-mail storage space
- Group functionality tools
- Outlook® Web Access
- Synchronize your data with ActiveSync
- Virus Scanner installed on the Exchange Server
- Spam filter included in Outlook 2003
- 24/7 phone support

OUTLOOK® 2003 INCLUDED*
With all Exchange accounts

*$6.99 shipping & handling applies.

No setup fee **$6.99** PER MONTH

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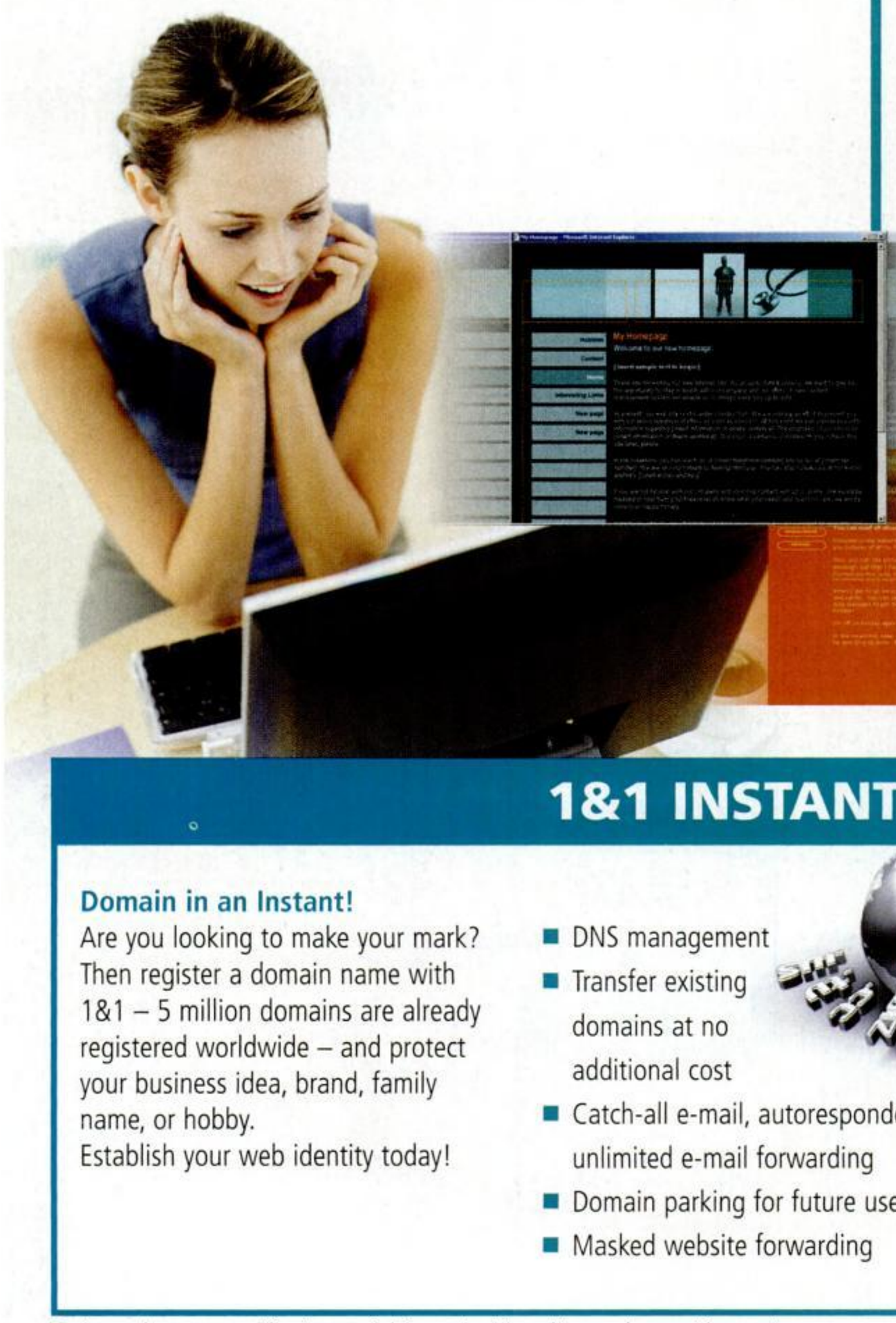
WEBSITE IN AN INSTANT

Create your ideal website in just 20 minutes.

1&1 makes it fast and easy to establish your presence online. Simply sign up for 1&1 Instant Website and then add on your domain. Whether you're a beginner building your first site or an experienced programmer looking for an additional site with no programming hassles, 1&1 Instant Website offers an ideal solution.



1&1 INSTANT WEBSITE

- Create a 12-page site with WebsiteCreator
- Choose from 120 professionally designed templates
- Get online easily with the 5-step wizard
- Launches from the 1&1 Control Panel – no software to install
- 15 e-mail accounts, 1 GB mailbox space each
- 1&1 WebMail
- 24/7 phone support

$2.99 PER MONTH
No setup fee

1&1 INSTANT DOMAIN

Domain in an Instant!
Are you looking to make your mark? Then register a domain name with 1&1 – 5 million domains are already registered worldwide – and protect your business idea, brand, family name, or hobby.
Establish your web identity today!

- DNS management
- Transfer existing domains at no additional cost
- Catch-all e-mail, autoresponders, unlimited e-mail forwarding
- Domain parking for future use
- Masked website forwarding

REGISTER DOMAINS FOR:
$5.99 PER YEAR
.COM .NET .ORG .INFO .US .NAME

.BIZ	$8.99 PER YEAR	.WS	$8.99 PER YEAR
.CC	$19.99 PER YEAR	.TV	$29.99 PER YEAR

Product and program specifications, availability, and pricing subject to change without notice.

Member of united internet

1&1

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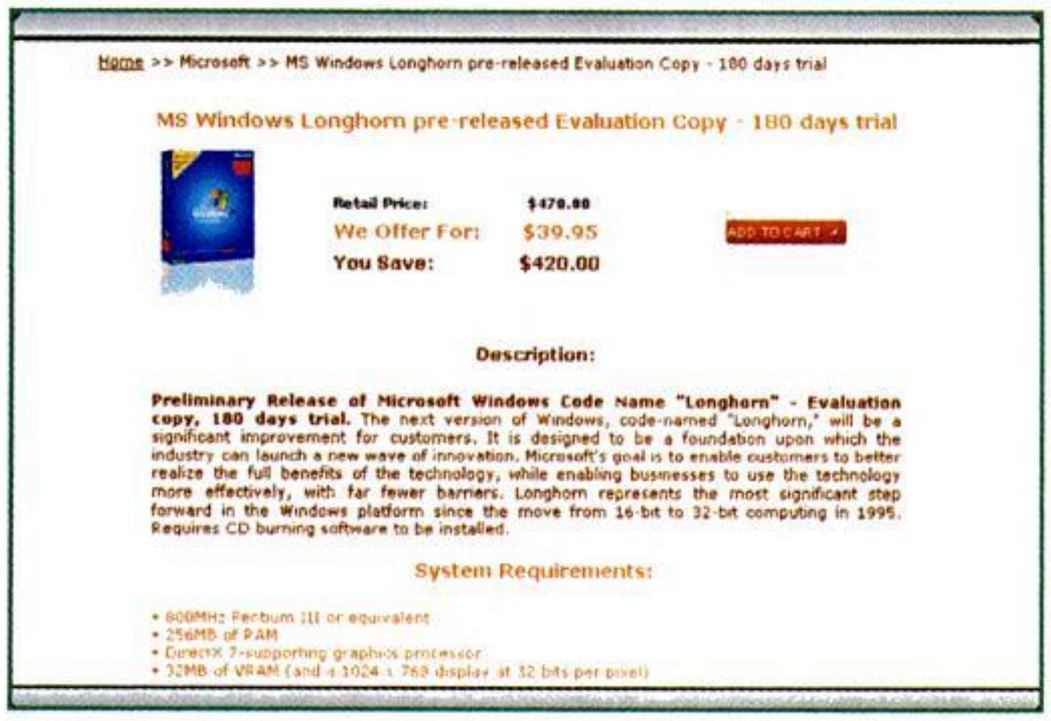
I replaced both GFIs, disabled the motion detector, cleaned the spider webs out of the outside circuit boxes, disconnected the phone answering machine and waterbed heater, and still had the buzzing sound. That left the TV as the generator of the noise. There was nothing visibly wrong inside the TV, but all is quiet now with a different TV.

— MARK JENSEN


Home >> Microsoft >> MS Windows Longhorn pre-released Evaluation Copy - 180 days trial
MS Windows Longhorn pre-released Evaluation Copy - 180 days trial
Retail Price: $470.00
We Offer For: $39.95
You Save: $420.00
ADD TO CART
Description:
Preliminary Release of Microsoft Windows Code Name "Longhorn" - Evaluation copy, 180 days trial. The next version of Windows, code-named "Longhorn," will be a significant improvement for customers. It is designed to be a foundation upon which the industry can launch a new wave of innovation. Microsoft's goal is to enable customers to better realize the full benefits of the technology, while enabling businesses to use the technology more effectively, with far fewer barriers. Longhorn represents the most significant step forward in the Windows platform since the move from 16-bit to 32-bit computing in 1995. Requires CD burning software to be installed.
System Requirements:
• 800MHz Pentium III or equivalent
• 256MB of RAM
• DirectX 7-supporting graphics processor
• 32MB of VRAM (and a 1024 x 768 display at 32 bits per pixel)

Among the software that Softzion.net sells for cut-rate prices is Microsoft's unreleased Longhorn OS.

Too Good to Be True? Of Course

DEAR DOG: A friend asked me if the cheap software at **www.softzion.net** was too good to be true. I took a look at the site and told him it was, and that he should buy the full retail version of the application. The site looks professional, and I can see how it would suck people in. Do the software manufacturers not have their own Watchdogs for stuff like this?

— GREG EILAND

Greg wasn't the only person to complain about fantastic deals for software downloads. Reader B.J. Kojo pinged the Dog about website www.iebuz.net, which offers *Office XP* for just $49 and *Microsoft Office 2003 Professional* for $69. Could the cost of a cardboard box and jewel case really account for the rest of the $550 that a retail version of Office sells for, or let IEBuz.net sell AutoDesk's *AutoCAD 2005* for $99 instead of $3,750? Hell no, as far as the Dog's concerned.

Although there were no Better Business Bureau reports or user ratings at Resellerratings.com, this Dog's doggy sense says there's no way anyone can sell Adobe's entire *Creative Suite* for $100 instead of $1,030.

Got a bone to pick with a vendor? Been spiked by a fly-by-night operation? Sic The Dog on them by writing **watchdog@maximumpc.com**. The Dog promises to get to as many letters as possible, but only has four paws to work with.

Neither Iebuz.net nor Softzion.net responded to the Dog's e-mails seeking their side of the story, but you can bet Microsoft has not authorized either website to sell copies of the "trial versions" of its Windows Longhorn OS a year before it will actually be released. And just to make sure, the Dog asked Microsoft about the possibility of the next-gen OS being available. Microsoft said no way. The company reported the sites to its piracy investigation department, but at press time had no comment on any pending or possible investigation of piracy.

So what's the story with Iebuz.net and Softzion.net? The Dog is highly skeptical of either site's ability to sell authentic software at the prices it offers, but both sites are amazingly professional and have slick store fronts. Both sites even feature SSL secured pages for "purchasing" software with authentic security certificates. The phone number for the registrant of Iebuz.net led the Dog to the Colorado State Division of Gaming, which had never heard of the website.

In this case, the Dog can't say for certain what's going on, but in general, when a website promises 90 percent discounts on current software, you can rest assured what you're getting is pirated. That's if you're lucky enough to even receive the product. In some cases, the only thing a consumer receives is a credit card charge. And when you consider the potential for a bogus website to sell your information to identity thieves, the risk just isn't worth it.

Incidentally, software companies typically have a mechanism for reporting piracy. If you suspect nefarious distribution practices, go the developer's site and search for a link pertaining to piracy. ■

"WHEN YOU CONSIDER THE POTENTIAL FOR BOGUS WEBSITES TO SELL YOUR INFORMATION TO IDENTITY THIEVES, IT'S JUST NOT WORTH THE RISK."

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THE MAXIMUM PC

DIY SUPER

GUIDE

These 27 how-to projects will help you get the most from your computer

BY THE MAXIMUM PC STAFF

It's been said that we use only about five or ten percent of our brain's potential—(and celebrities get by on even less than that). The same holds true for our PCs and gadgets. Even power users miss out; few take advantage of all the cool things they can do, either out of ignorance or simply because they don't know where to start.

This is the starting point.

Over the next 11 pages, we'll show you 27 *Maximum PC*-approved how-tos. This is the best collection of bite-size projects we've ever assembled—they're culled from a year's worth of monkeying around in the Lab. We'll show you how to suspend a flat panel over your desk, automate your home—*Jetsons*-style, find a wealth of hidden information on the Internet, set up your own blog, and turn your USB key into a heiny-saving travel kit. But wait, there's more! We'll show you how to save yourself 497 bucks with a mechanical pencil, catch a broadband thief, and teach your iPod to do double duty as a pimped-out PDA.

But remember—these are only starting points. Feel free to tweak our recipes and experiment with our methods! If you find an even better way to get things done or have tips of your own, let us know at **howto@maximumpc.com**. We'll run the best suggestions in an upcoming issue.

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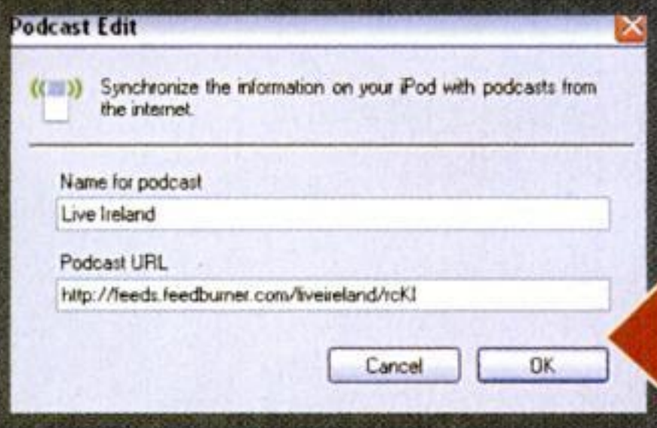
DO IT YOURSELF

GET MORE FROM YOUR IPOD

If you've got an iPod, *iPod Agent* (**www.ipodsoft.com/index.php?/software/ipodagent**) is your new best friend. This free (donations cheerfully accepted) utility automates the otherwise tedious task of synchronizing all your important data to your iPod, including your *Outlook* Calendar and Contacts, RSS feeds, and even podcast subscriptions! Setup couldn't be easier; to sync your *Outlook* Contacts, for example, just click the Contacts button, and then click the check-box next to each folder or folders you'd like to keep synchronized. Click Sync Now and... well, that's it!

Keeping your iPod filled with fresh Internet grub is just as easy. For RSS feeds and podcasts, all you have to do is name the feed and then enter its URL. Every time you sync your iPod after that, *iPod Agent* will stuff it full of goodies.

***iPod Agent* automates the process of syncing your iPod with anything—your calendar, contacts, and even news feeds.**



All you need is a URL, and *iPod Agent* does the rest for you.

As you can see from this shot, *iTunes* thinks this OGG track is really a standard QuickTime file. Devious!

Play OGG Files within iTunes

iTunes is a great media player. OGG Vorbis is a high-quality and open-source audio compression codec. *iTunes* doesn't support OGG files. This makes us angry. But don't fret—you can enable playback of OGG files within *iTunes* and it won't cost you a dime!

Go to **http://qtcomponents.sourceforge.net/** and click Download in the menu on the left. Download the latest version of Win32-OggVorbis.zip. Extract the file oggvorbis.qtx and transfer it to C:\Windows\system32\QuickTime. Launch *iTunes*. Drag your OGG files to your *iTunes* library. Play your OGG files and swivel your hips.

Yes, OGG files are slow to load from within *iTunes*, *iTunes* still won't recognize your OGG tags, and this trick doesn't allow you to encode OGG Vorbis files from within *iTunes*... yet. Keep checking the QuickTime Components site—these features will turn up eventually.

MAKE A USB KEY TRAVEL KIT

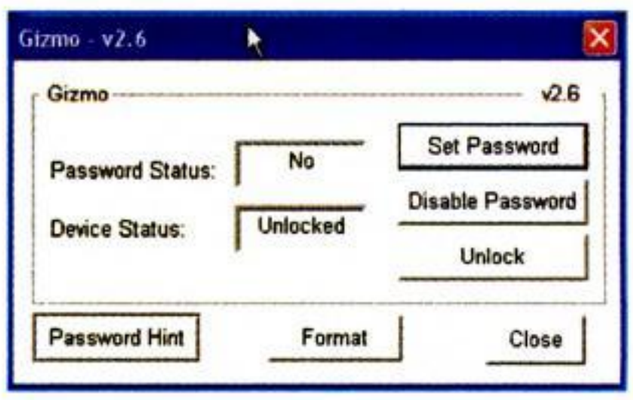
USB keys, or thumb drives, are super handy for carrying files from one place to another. Here's how to configure your wee drive so you can use it in any computer to access the web without leaving a trace of your presence behind. The secret is *Portable Firefox*.

The first step is to download and unzip *Portable Firefox* (**http://johnhaller.com/jh/mozilla/portable_firefox/**) in your USB key's root folder. This will create and maintain a stand-alone *Firefox* install—including a separate profile—on your thumb drive. Your cookies, history, and favorite websites will be stored on your portable drive, instead of the host PC. Shut down your normal *Firefox* app and then launch *Portable Firefox* using the portablefirefox.exe file (*do not* use the firefox.exe file, or it will launch the normal *Firefox* browser).

You can use a USB thumb drive for much more than just toting data.

You can copy much of your local profile into *Portable Firefox*, but the developer suggests you turn off cache in order to conserve space. (Disable cache in the Security section of the app's Preferences panel.) To copy your profile to the thumb drive, navigate to C:\Documents and Settings\[user]\Application Data\Mozilla\Firefox\Default and copy the contents to the same folder on your USB drive. If *Portable Firefox* fails to launch or hangs after copying your profile, delete the contents of the Default folder and try copying only the bookmarks.html file into it.

There are a few limitations to *Portable Firefox*. Java apps won't work unless your host machine has a working Java install.



Many thumb drives, including the Crucial Gizmo 2.0, let you create a password-protected partition on the device.

Plus, it's vitally important that you treat your thumb drive as though it's been infected with a virus every time you use it in a strange machine. If at all possible, run a virus scan on your USB drive before running any applications on any *other* PC.

Once you've set up your portable browser, you can also create digital backup copies of important documents (driver's license, passport, credit cards, and so on) using a scanner, copy the images to your USB memory, and then encrypt the files using a program such as *Steganos Security Suite*.

If your keychain drive doesn't have built-in encryption tools, you can use third-party software like *Steganos Portable Safe*.

***Portable Firefox* on a USB thumb drive lets you browse the web in libraries and cafes using your own settings.**

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WALL-MOUNT YOUR LCD

Most flat panels are relatively light, but none are featherweights, so it's important you use the proper mounting hardware. If your walls are made from drywall, don't assume that simple expansion bolts will do the job. Over time, even these heavyweight fasteners can pull through drywall and drop your costly display right on the floor—or whoever is unfortunate enough to be standing beneath it when it goes.

Television and computer monitors that adhere to the VESA standard—read: most of them—will have four pre-threaded holes on the back of the display. When you're shopping for a mounting kit, you'll need to choose between an elaborate but bulky mount that will provide *beau coup* viewing angles, and a low-profile mount that sacrifices mobility. Prices will range from $50 to more than $500, depending on the size and weight of your display.

Nearly all kits ship with two elements. One that connects to the back of the display, and a second part that bolts to the wall. Once you've decided where to place your monitor, use a level and mark the wall to make sure the mounting holes you're about to drill will be balanced. If you have drywall construction, secure the mounting bracket to the centers of one or more wooden studs (use a stud finder to locate and mark the outer edges of the stud, drill a pilot hole in the center of your marks, and secure the bracket using the included woodscrews). If your walls are concrete or brick, drill holes in the material—not the mortar between bricks—then slide masonry expansion sleeves into the holes, slide lag bolts through the holes in the mounting plate, and screw the bolts into the sleeves. The sleeves will expand and fill the holes to provide a secure anchor.

Once you've mounted the bracket to the wall, secure the other part to the display itself (to do this, lean the display against a wall, rather than laying it on its face, to prevent damage to the glass). Now, you can secure the display to the wall with the hardware provided.

Attach the mounting bracket to your wall. Make sure you anchor it securely, or it could fall and take part of your wall with it!

Secure the mounting bracket to the LCD. Most displays will have universal VESA-standard mounts, but very large units might require something more complex.

USE HIJACK THIS TO REMOVE SPYWARE

Sometimes, the best automated spyware removal utilities fail. Either they don't know how to remove the latest variant of *CoolWWWSearch*, or an obviously infected machine shows up with no known spyware. That's where *Hijack This* (www.merijn.org) comes in.

At first glance, *Hijack This* seems like the most confusing spyware-removal utility ever made. Rather than scanning your PC and then giving you a big, red button labeled "Remove Spyware," it forces you to weed through scores of legitimate entries to determine which are spyware, and which aren't. The person who wrote the software even claims, "You're not expected to understand all the results [of the scan]." Uh oh. The good news is that it's not too complicated once you understand how the utility works. That's where we come in.

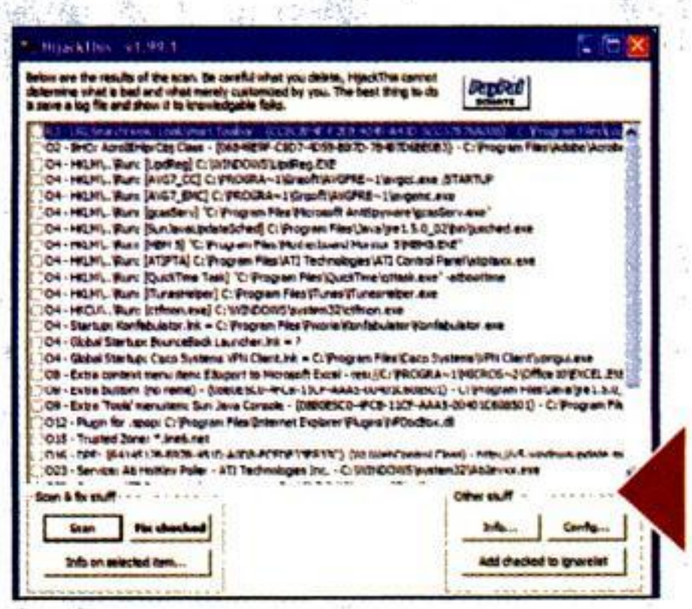
Hijack This scans your PC and provides you with a handy list (and text-based log file you can peruse offline) of all the places where a program can configure itself to automatically start in Windows. The entries are sorted by type, and each one includes a description of the type of file it is. You have to go online to find out what the descriptors mean, but it's worth the hassle, as *Hijack This* gives much more detailed info than any other utility we've tested.

For example, after a list of all the currently running apps, we come to a line break and then the description "R3." According to the online "decoder" (available at www.spywareinfo.com/~merijn/htlogtutorial.html), this means the listing is an "IE start page or search toolbar." If you normally use the popular site www.maximumpc.com and the listing says www.ratemykitten.com, you know your browser has been hijacked. Simply check the item and then click "fix checked" to delete the entry from your PC's Registry.

To finish this process, simply follow the online decoder and delete the keys you think are spyware. If you're not sure what the entries mean, post your log on the *Hijack This* forums and have an expert evaluate it for you.

```
O8 - Extra context menu item: E&xport to Microsoft Excel -
res://C:\PROGRA~1\MICROS~2\Office10\EXCEL.EXE/3000
O9 - Extra button: (no name) - {08B0E5C0-4FCB-11CF-AAA5-00401C608501} - C:\Program
Files\Java\jre1.5.0_02\bin\npjpi150_02.dll
O9 - Extra 'Tools' menuitem: Sun Java Console - {08B0E5C0-4FCB-11CF-AAA5-00401C608501} -
C:\Program Files\Java\jre1.5.0_02\bin\npjpi150_02.dll
O12 - Plugin for .spop: C:\Program Files\Internet Explorer\Plugins\NPDocBox.dll
O15 - Trusted Zone: *.line6.net
O16 - DPF: {64145128-B978-451D-A0D8-FCFDF33E833C} (WUWebControl Class) -
http://v5.windowsupdate.microsoft.com/v5consumer/V5Controls/en/x86/client/muweb_site.cab?
1104487295515
O23 - Service: Ati HotKey Poller - ATI Technologies Inc. -
C:\WINDOWS\system32\Ati2evxx.exe
O23 - Service: ATI Smart - Unknown owner - C:\WINDOWS\system32\ati2sgag.exe
O23 - Service: AVG7 Alert Manager Server (Avg7Alrt) - GRISOFT, s.r.o. -
C:\PROGRA~1\Grisoft\AVGFRE~1\avgamsvr.exe
O23 - Service: AVG7 Update Service (Avg7UpdSvc) - GRISOFT, s.r.o. -
C:\PR...1\Grisoft\AVGFRE~1\avgupsvc.exe
```

The report window for *Hijack This* can be a bit difficult to read, so the app reproduces the list in a text document, which you can also post online for assistance.



Though it's certainly not user friendly, *Hijack This* lets you manually delete spyware entries that other utilities are incapable of abolishing.

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Get the Most from Your New LCD Monitor

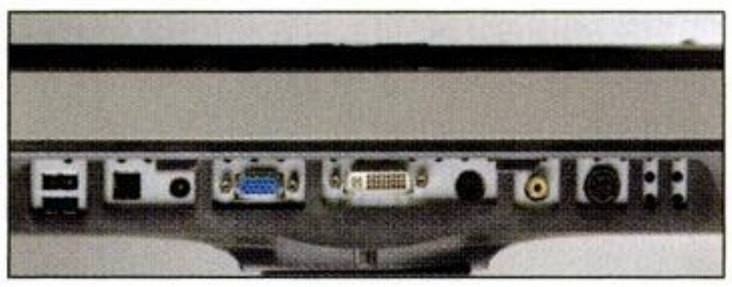
So you finally took the plunge and purchased a brand-spanking-new flat panel. Good for you! But before you pat yourself on the back there are a few things you should do to ensure an optimum experience.

GIVE YOUR NEW DISPLAY A THOROUGH TEST DRIVE

If there is anything wrong with the LCD, you want to catch it right away, in order to take advantage of the resellers quick-exchange program, or at least have it repaired within the warranty period. Here's how to give your LCD the once-over.

STEP 1: Once you pull the LCD from its packaging, make sure you've received all the "included" parts and cables, and check the panel for any surface flaws—scratches, nicks, discolorations, etc.

STEP 2: Test *all* of the display's various inputs—DVI, VGA, S-video, etc.—to make sure they are functioning.



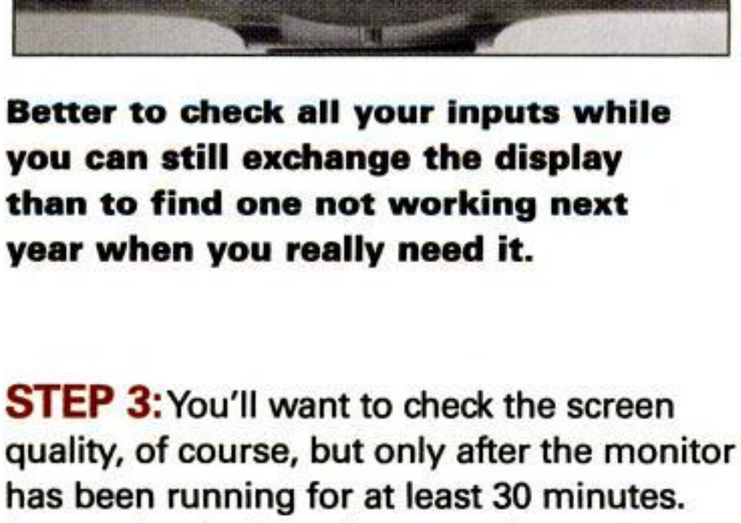
Better to check all your inputs while you can still exchange the display than to find one not working next year when you really need it.

STEP 3: You'll want to check the screen quality, of course, but only after the monitor has been running for at least 30 minutes. It can take that long for a monitor to warm up to its peak performance. It's also helpful if you conduct your evaluation in a dark environment—ambient lighting and glare can affect what you see onscreen.

Install the *Monitors Matter CheckScreen 1.2* utility included on our disc (or download it from the Meko Ltd. home page (**www.benchmarkhq.ru/english.html?/be_monitor.html**). Launch the app, and click the LCD Display tab. Cycle through all the solid-color test screens. In combination, these screens will reveal the uniformity of the screen's backlight (look for spots that appear dimmer or brighter), shading irregularities (pay particular attention to the corners and edges of the panel), and any intensity variations in the primary colors.

These screens also give you an opportunity to check for bad pixels. By systematically scanning the various colored screens up close, from side to side and up and down, you're sure to discover any pixels that are stuck in either an on or off position. (You'll notice that the application provides separate test screens for this purpose, but we find the solid screens just as effective.)

If you plan to use your LCD for gaming, use the Smearing screens to check for any problems the screen might have reproducing fast-motion content. Unacceptable results might not mean the LCD is faulty, *per se*, but you might still be able to exchange the LCD for a more gamer-friendly model.



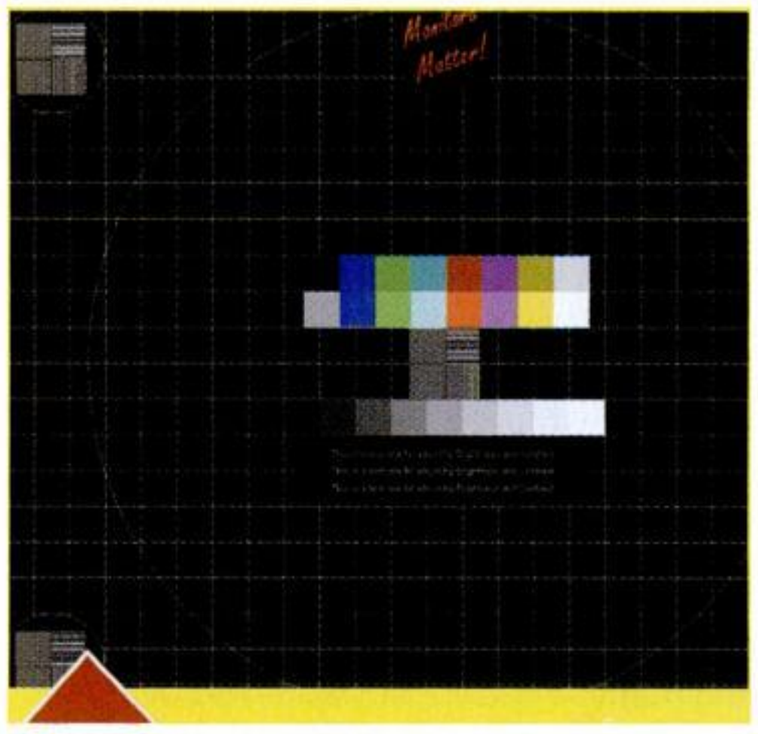
***Monitors Matter's* LCD tests will reveal any flaws in a screen's quality.**

FINE-TUNE YOUR LCD

Once you're satisfied that your flat panel isn't defective, take the time to familiarize yourself with the onscreen controls. Try out the various presets and/or color temperature options with different types of content. Don't be afraid to experiment—you can always revert to the Auto/Factory preset if you screw up.

Use the *Monitors Matter* Master Test pattern as a basis for manual adjustments. The large outer frame should fill the whole screen, all the boxes within in it should appear perfectly square, and the circles should appear perfectly round, not oval. This is a test of the screen's aspect ratio; if necessary, make adjustments using the display's Size, Position, or Centering controls, and make sure you're running the monitor at its native resolution.

The background of the screen should appear black, not dark gray. Decrease the Brightness to achieve this result, trying not to lose the darkest gray on the color bar. Similarly, use the Contrast control to achieve an acceptable white without washing out the lightest gray block.



The *Monitors Matter* Master Test screen will help you tweak your picture quality.

Don't be afraid to fiddle with the onscreen controls. If you muck something up, you can reset to the default settings!

NUKE YOUR HARD DRIVES

You hear a knock at the door—who could it be? The CIA? The FBI? The RIAA? The AARP? Don't take any chances. Those MP3s in your shared folder are incriminating evidence—cover your tracks! Your first target: the hard drive. For this, you'll need the freeware, floppy-based *Active KillDisk* hard drive eraser from www.dirfile.com/active_kill_disk__hard_drive_eraser.htm. Scrubbing your data to Department of Defense standards can take hours and hours, so make sure you're prepared with some stalling tactics.

DISPOSE OF YOUR OLD CRT

Assuming your CRT is no longer of use to you, it's only right that you dispose of the honking beast responsibly—a street corner or dumpster is *not* an option.

If the monitor is still functioning, donate it to a charitable organization such as Goodwill Industries; if it's not, we know of no better recycling program than Dell's. Regardless of the brand, Dell will take your old PC gear off your hands for just $10 per 50 lbs. Go to **www.dell4me.com/recycling** for more information.

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AUTOMATE YOUR HOME

Imagine coming home, pressing a button on your garage-door opener, and having that one key press turn on your kitchen lights and tune your television to the evening news. We'll show you how to set up a simple and inexpensive home-automation system using your PC, a few pieces of software, and control modules that plug into your existing outlets.

Unlike data networking, there is no Wi-Fi or Ethernet-like standard that guarantees interoperability between different home-automation hardware (Z-Wave, X10, and Insteon are the three most popular types). We're using Zensys Technologies' Z-Wave system in this example, which uses radio frequencies to broadcast commands from a handheld remote to modules that plug into existing electrical outlets. Plug your lamps and appliances into these modules and you can control them using the remote. You can also replace your wall switches with Z-Wave-compatible dimmer switches.

As convenient as a handheld remote might be, its functionality and ease of use are limited by its small screen and paucity of buttons. Bring your PC into the home-automation picture, and you can do almost anything. To that end, HomeSeer Technologies' USB module with PC software not only resolves the standards issue (it supports the Z-Wave, X10, *and* Insteon protocols), it can handle complex tasks, such as scheduling events and sending e-mail alerts whenever it detects unexpected activity in your home. It will even allow you to remotely control connected devices in your home via the Internet.

SIMPLE AUTOMATION

The HomeSeer starter kit ($200) comes with a Z-Wave USB controller, a handheld remote control, one lamp module (with built-in dimmer), and *HomeSeerSE* (the "lite" version of the *HomeSeer* software). *HomeSeerSE* will support up to eight devices and 32 events. Additional modules for indoor (or outdoor) lamps and appliances sell for between $40 and $45, or you can purchase less-obtrusive wall switches with built-in dimmers and Z-Wave controllers for about the same price (roughly twice the price of a standard dimmer switch).

Upgrading to the full version of *HomeSeer* ($100) expands support to an unlimited number of devices and events. It also adds support for X10 and Insteon devices, and universal support for infrared devices (such as your A/V gear), voice-recognition, scripting, and much more. Add the Z-Wave Thermostat kit ($250) and you'll even be able to monitor and control your home's heating and air-conditioning systems.

To get started, plug a lamp module into a wall socket and plug the device you wish to control into the module. (The lamp modules are designed for low-power applications, such as incandescent lamps. If you need to control something else, such as a coffee maker or a stereo, you should use an appliance controller.) Hold the remote control within 12-inches of the wall module, press and hold the "1" button on the remote until the message "Press button on unit" appears on its LCD. Now, release the button on the remote and press the button on the lamp module. This will synchronize the two devices, so that pressing "1" on the remote now turns on the lamp module. Repeat this process for each module you wish to control with the remote, assigning each module to one of the remote's six "speed" buttons.

Once you've programmed all the modules into the remote, plug the USB controller into your PC and install the *HomeSeer* software. The *HomeSeer* wizard will step you through a similar sequence of events to transfer the data from the handheld remote to the USB interface. Once you've done that, you can control any Z-Wave device using either your PC *or* the remote. The HomeSeer system will automatically synchronize itself to the network, so it's aware of every module's status (on, off, dimmed, etc.).

With *HomeSeerSE* software and Z-Wave-compatible device controllers, you can control your entire home-automation system via the web.

WHAT YOU'LL NEED

Intermatic's HA04 is a weatherized plug-in module suitable for outdoor use (dry, damp, or wet conditions). It can handle up to 1,000-watt tungsten lamps.
$45, www.intermatic.com

The price of Intermatic's Z-Wave in-wall switch/dimmer is only about twice that of a normal switch/dimmer, and it's much more aesthetically pleasing than a plug-in module.
$43, www.intermatic.com

A Z-Wave home-automation network relies on a single master remote control, such as this Sylvania model SH50201.
$39, www.homeseer.com

Sylvania's SH50330 is a typical Z-Wave plug-in module, which can handle up to a 300-watt lamp.
$45, www.homeseer.com

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DO IT YOURSELF

Research a Vendor Before You Buy

Though we employ a trained watchdog to keep shady vendors at bay, the Dog can't help everyone. It's critical that you do some research on your own before handing your greenbacks to an unknown vendor.

In the past we've recommended Resellerratings.com to find out what other folks think of a specific company, but we're beginning to grow a bit suspicious of that site. A good way to confirm your vendor's Resellerrating score is to check in with the Better Business Bureau (**www.bbb.org**). Just type in the name or URL of your vendor and—bam—you can find out how many complaints have been levied, and when the complaints were made. We followed up on a defunct company the Watchdog had reported on several months ago. As it turns out, this company has an overall grade of F from the BBB. We also strongly recommend visiting manufacturers' forums and looking for grousers, as well as checking out the *Maximum PC* forums **www.maximumpc.com/forum**) to see if other forum-goers have had good (or bad) experiences with the vendor in question.

Home
Consumer
Business
Agency
Media
Company Report
Liebermann, Inc.
DBA: Liebermann, Inc.
Address: 8726 Sepulveda Blvd Suite B-161 Los Angeles, CA 90045
Primary Phone: (877) 279-6155
Primary Fax: (206) 600-3028
Primary Contact: Lisa Ciesniewski, President
E-mail Address:
Website:
Company ID: 13201261
Business Start Date: 1/1/2002
BBB Created Record on: 11/6/2003
Nature of Business:
This company's business is manufacturing and sales of high-end computers.
Company Rating
F
Rating Explanation:
The rating the Better Business Bureau assigns a business is determined by our composite score of such factors as its type of business, length of time in business, compliance
» Full Rating Explanation
Bureau Summary and Analysis of customer complaints and company responses:
Our complaint history for this company shows the company gave proper consideration to some complaints presented by the Bureau.
Although in some cases the company failed to respond to complaints...
» More

After perusing the BBB's website pre-purchase, we see this company has received nine complaints in the past three years. Hmmm, maybe we'd better shop elsewhere.

GENERATE EASY TO REMEMBER, BUT HARD TO CRACK PASSWORDS

Although Keanu Reeves gave mnemonics a bad rap with the craptastic *Johnny Mnemonic*, don't write the memorization technique off as silly. If you create an easy to remember phrase, then use key letters of that phrase as a password, you can improve your PC's security. For example, we like to make up silly phrases and then use the first letter of each word as a password; thus, "The salsa shark is eating the boat" translates to a password of "TSSIETB." Who would ever guess that one? And because you don't want to use the same mnemonic for each site on the web, you can make up a thematic phrase for each instance. Your Amazon.com mnemonic could have a reference to the jungle, and the mnemonic for your bank's website could contain a phrase about nickels and dimes.

Quickly Color-Correct Your Images

This scanned print image (A) from the early 1990s is typical of a poor scan; it has shifted blue, or "cold," and has no pop. To edit the photo, we'll use Google's *Picasa 2*. It's fast, neat-looking, and best of all it's as free as Baretta.

If you're in a hurry, you can try *Picasa 2's* Auto Color (B). It does a fair job, but the "fixed" photo still looks a little flat to us. So, hit Undo and click the Tuning tab. The fourth slider lets you control the color temperature. Sliding it to the left makes the image colder (bringing out the blues), while sliding it to the right warms up the pictures (enhancing the reds). We added lots of warmth to make the image a close approximation of the original print (C), rather than the zombie convention depicted in the original scan.

A poor scan job resulted in a blue-shifted image.

We also tweaked the shadows and the highlights to give our image more oomph. We increased the brightness of the highlights (or bright portions of the photo), but that caused the white t-shirt on the left to glow. *Picasa 2* doesn't have a dodge or burn tool that a full-fledged image-manipulation program would have to re-darken blown-out highlights or dodge shadows, but we're comfortable with small blown-out areas in our image.

Finally, we selected *Picasa 2's* third tab to sharpen the image (D). The original image was printed more than 10 years ago and scanned into a PC using a flat-bed scanner. The initial scan was pretty soft, so sharpening helps the people in the foreground of the photo stand out more.

Picasa 2 saves the changes you make to the image in its database with the other photo meta-data so you can undo changes down the road if you want to retouch the photo in a more advanced editor. If you want to save a retouched version of the photo, you'll need to save it using *Picasa 2;* you can't just copy the file from your pics directory.

Auto Color doesn't add much life to the photo.

Manually tuning the color is the best option, assuming your monitor isn't terribly out of whack.

The final step in our photo rehabilitation is sharpening.

Copyrighted material

Catch Wireless Moochers!

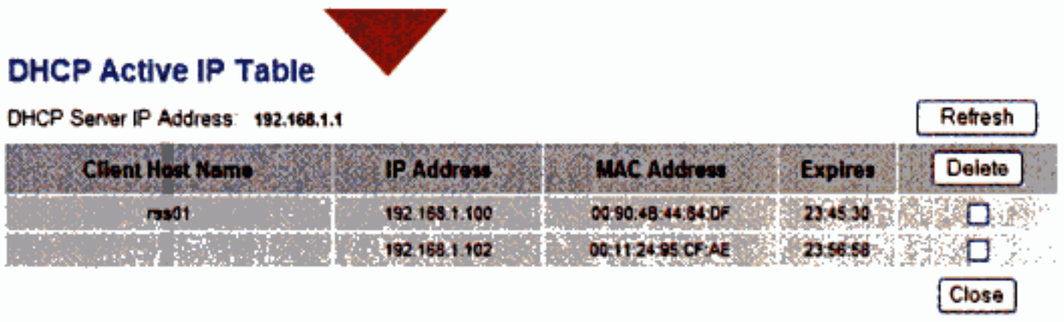
To monitor activity on your wireless network, you don't need to rely on fancy network monitors or complex shareware packet sniffers. Your router comes with all the tools you need to find out who's been mooching your Internet connection and what they're up to. If you've seen your router's activity lights flickering when you know your PCs are turned off, here's how to find out what's happening.

STEP 1: LOG ON

Log into your router's web interface by browsing to the IP address. If you don't know your router's IP address, it will be the same as the Default Gateway, which you can find by right-clicking your connection, clicking Status, and then clicking the Support tab. Once you're at the page enter your username and password.

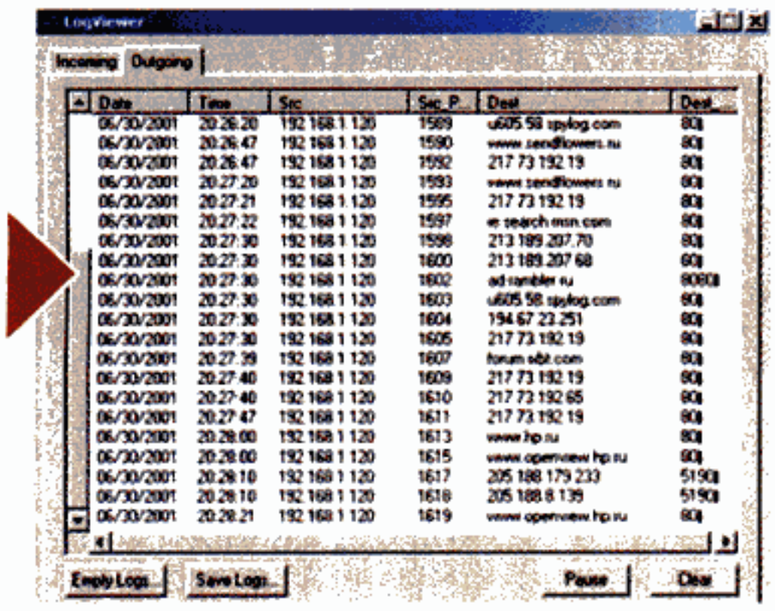
STEP 2: CHECK THE DHCP TABLE

If you're using DHCP for routing, which most people do, then your router's DHCP table keeps a list of all the machines that connect to it. On our Linksys WRT54G, we access this table by clicking the Status tab, choosing Local Network from the submenu, then clicking DHCP Clients Table. In our test scenario, the only PC that should be on our network is the one we named rss01. So that other, unnamed machine is an intruder.



STEP 3: SEE WHAT THEY'VE BEEN UP TO

Enable traffic logging on your router to find out what your intruder has been up to. This isn't really necessary, but it can be fun—especially if your nefarious neighbor has embarrassing surfing habits. After a day or two, check the list to see what sites they've been visiting. Then send an anonymous blackmail note requesting a briefcase full of small, unmarked bills.

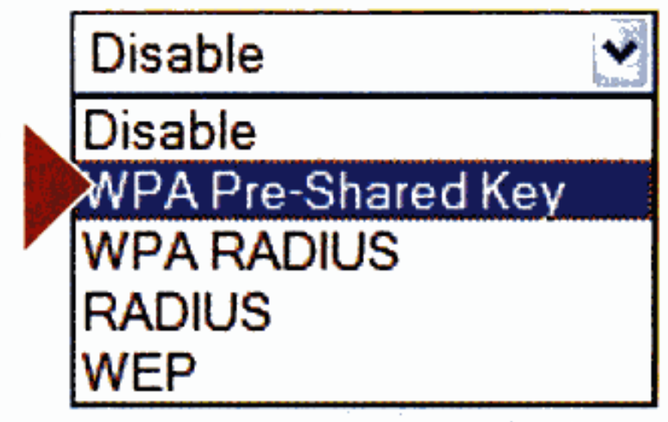


Secure Your Wireless Network with WPA

Locking down your network with WEP is like bungee jumping with a rubber band. Unless you really dig danger, we don't recommend it. And even if you already use WPA, you should make sure you're using AES encryption rather than TKIP key scrambling for maximum security. Here's how to use WPA's robust encryption to keep your neighbors off your network.

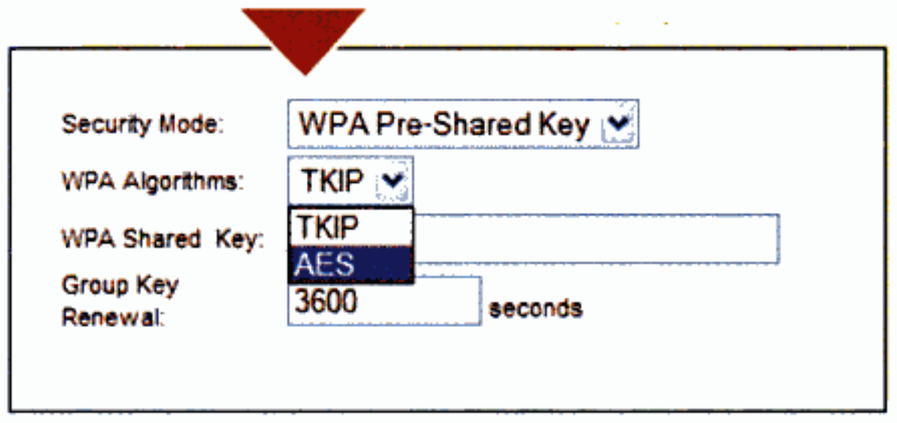
STEP 1: PICK WPA

Log into your router and go to your wireless security screen. Some routers put this right on the front setup page, while others bury it. Our Linksys router tucks it under the Wireless tab. Once there, choose WPA Pre-Shared Key from the drop down menu.



STEP 2: SWITCH TO AES

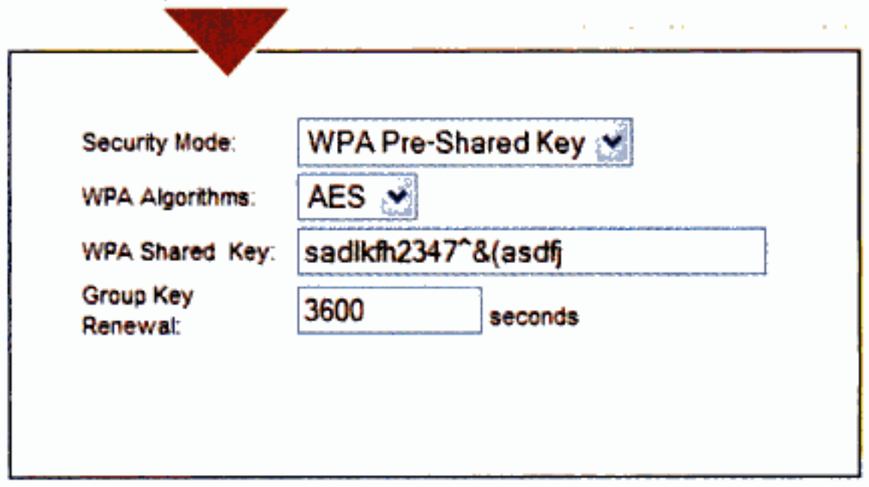
The latest version of the WPA security standard, WPA2, uses Advanced Encryption System (AES), rather than relying on the less-secure TKIP key scrambling, to protect your data. Encryption has a distinct advantage over key scrambling in that it makes it much harder for packet sniffers to suss your password. If you're using an older router, you may need to download the latest firmware update to take advantage of AES.



STEP 3: SET THE KEY

Make your key as random as possible to prevent "brute force" attacks that attempt to guess your WPA key by trying every possible permutation.

As with any password, your WPA shared key should be as long and random as possible, with lots of odd characters and numbers thrown in. Save your settings, reboot your router if necessary, and enjoy safer surfing!



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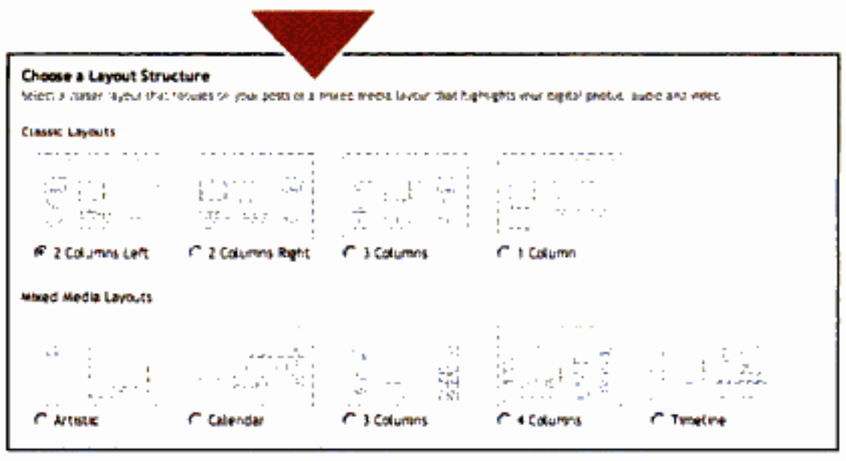
Build Your Own Blog

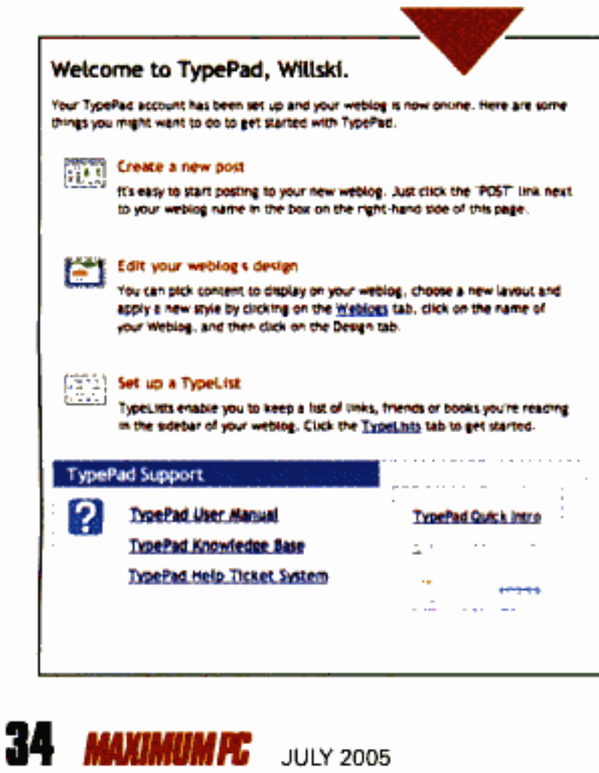
Whether you're talking about the popular bizarro news site BoingBoing.net or the millions of haven't-been-updated-since-2003 personal weblogs that litter the Internet, blogging is a hot topic. If you want to start your own blog, it's never been easier—we'll have you up and blogging in five minutes.

There are loads of competing blogging services, but to set up a quick-and-dirty weblog, we prefer *Typepad*—the URL is **www.typepad.com**. *Typepad* automates lots of the confusing things about blogging, such as site design, hosting, and configuring a domain name.

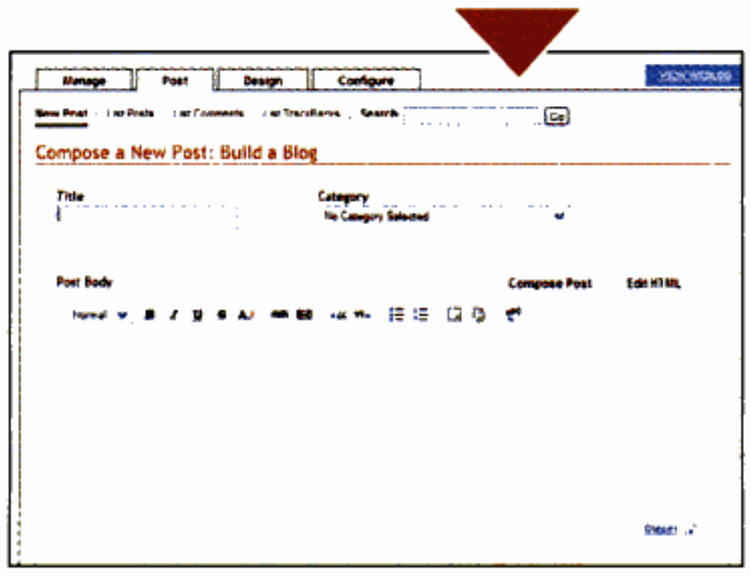
STEP 1: Sign up for an account at **www.typepad.com**. It's easy, and it only takes a couple of minutes. Once you've created the account and signed up for a billing plan—remember, *Typepad* offers a 30-day free trial, so if you cancel your sub before 30-days is up, you won't be charged—you'll be presented with the template selection screen. Here you can choose the basic format your blog will take. We chose a fairly standard two-column layout. If you change your mind later, it's easy to change the template, so pick one that looks good, and we can move on.



STEP 2: Now your blog is configured! You should see a screen that looks something like this one. Before you make your first post, take a second to explore. From this page you can see all sorts of important info about your blog. The first thing you should do is click "Edit Your Member Profile" and fill in a few blanks. The nickname field is especially important, as your nick is used to sign your blog posts.

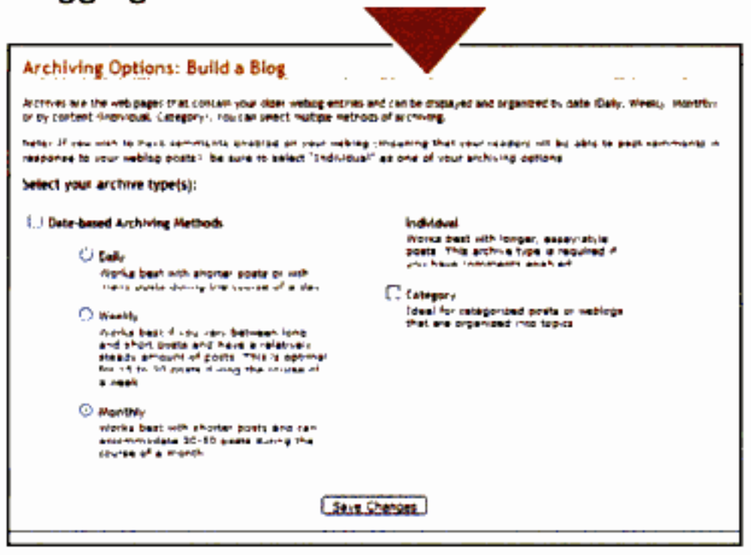

Welcome to TypePad, Willski.
Your TypePad account has been set up and your weblog is now online. Here are some things you might want to do to get started with TypePad.
Create a new post
It's easy to start posting to your new weblog. Just click the 'POST' link next to your weblog name in the box on the right-hand side of this page.
Edit your weblog's design
You can pick content to display on your weblog, choose a new layout and apply a new style by clicking on the Weblogs tab, click on the name of your Weblog, and then click on the Design tab.
Set up a TypeList
TypeLists enable you to keep a list of links, friends or books you're reading in the sidebar of your weblog. Click the TypeLists tab to get started.
TypePad Support
TypePad User Manual
TypePad Knowledge Base
TypePad Help Ticket System
TypePad Quick Intro

STEP 3: Now it's time to make your first post. Go back out to the main *Typepad* screen, and click Post next to your weblog's name. You should see a screen that looks like this one. From this point on, posting to your blog is similar to posting a thread on a message board. Simply fill in the required fields—title and body—and press Save. As soon as you do that, what you posted will be accessible to everyone on the Internet.



STEP 4: Once you've made a couple of test posts, you'll probably want to tweak the design of your blog a bit. Click the Design tab, and go to the Template Builder, where you can tweak both the content and layout of your page. If you go to the Content option first, you can add or remove common page elements, like a quick-nav calendar, and a list of the most recent comments.

STEP 5: The last thing you should configure are archives. *Typepad* will automatically move older posts off of the front page and into an archive file for you, you just need to tell it what type of archives you prefer for your posts. *Typepad* even provides good guidelines to help you select the archiving method that's right for you. That's really all you need to know to start blogging!



DESTROY YOUR DISCS

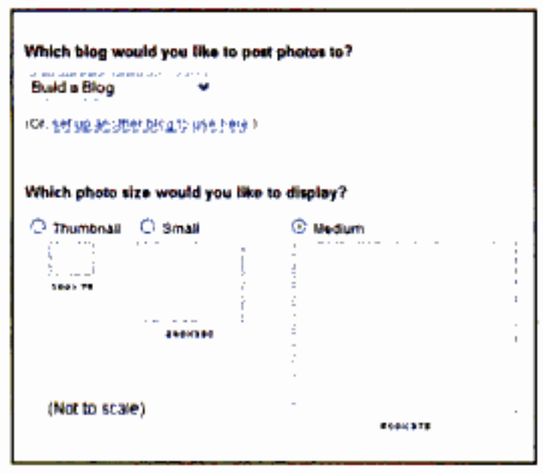
You might be inclined to toss your incriminating backup CDs into the microwave oven, where a spectacular display of fireworks will result in a stinky appliance and a handful of cracked discs. But believe it or not, determined data recovery experts can still extract damning evidence from the wreckage. Instead, you'll need to reduce those discs to a pile of tiny fragments and silver confetti with a disc shredder such as Royal's MD100 Media Destroyer ($100, www.royal.com).

HOW-TO: POST PHOTOS TO THE WEB FROM ANYWHERE

Typepad Basic is a great blogging service for a mere $5 a month, but it doesn't offer much in the way of space or bandwidth for other media, such as photos. You could sign up for the more expensive Typepad subscription that gives you access to photo galleries, but we prefer something a little more powerful. Enter Flickr.

Flickr (**www.flickr.com**) is a kick-ass online photo service that caters specifically to bloggers. In addition to sharing your photos, Flickr also lets you do some tricky stuff—like posting images to your blog from your cellphone or PDA. Best of all, you can directly link to photos on your blog, so you can host your blog from one place, and host your photos at Flickr. The cost is minimal—$25 a year—and you don't have to worry about bandwidth, size quotas, or anything like that. You just need to know that you can upload up to 2GB of photos every month (there's also a free account limited to 10MB a month). It's an all-you-can-eat photo service.

Sign up for a free account at Flickr.com, then click Your Account. Under the blogging section, click "Uploading photos to your blog by email." First, you'll have to add a blog. Flickr will walk you through the procedure, then you can select the photo size you want to display and whether you want to post the text of your e-mail along with the picture. Click save, and Flickr will spit out an e-mail address. Any pics you send to that address will automatically end up on both Flickr and your blog.



Posting a pic to your blog is as easy as sending an e-mail to a special address.

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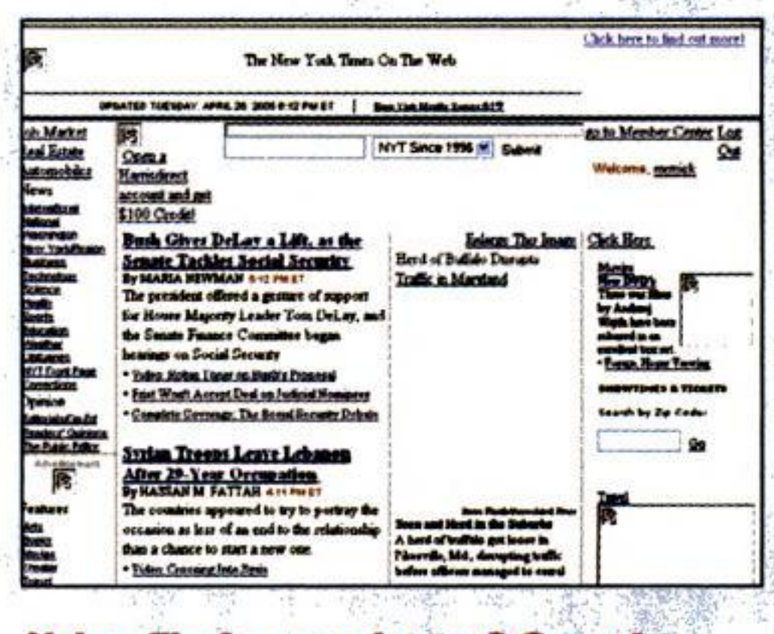
BROWSE THE NET ON YOUR MOBILE–FAST!

The biggest problem with using a mobile device to browse the web is that most web content isn't designed for the tiny screens that cellphones and PDAs sport. Couple that with a slow-ass wireless Internet connection, and it's no wonder so many people don't bother. There are a few *Maximum PC*-approved tips and tricks that can make the experience more bearable—note that we didn't say good.

If you enjoy reading the news on your PDA, Blackberry, or smartphone, download *AvantGo* for your handheld device. The service will deliver content from thousands of popular web sites—plus maps, stock quotes, movie listings—all specially formatted for the small screen.

If *AvantGo* doesn't include the pages you frequently visit with your mobile device, or if you'd rather not install an application, try using Skweezer (www.skweezer.com). Go to the site, put in the URL you want to visit, and Skweezer will reformat the site for the small screen, in real time. Skweezer also supports RSS newsfeeds. The ad-supported version of Skweezer is free, or you can pay $15 per year to banish the ads.

If you're browsing using a notebook, we recommend configuring your web browser to skip downloading images. When you connect over a cellular link, text-only browsing can make your sluggish connection feel like broadband. To disable images in *Firefox*, click Tools, Options, Web Features, and remove the checkmark next to Load Images. In *IE*, go to Tools, Options, Advanced, Multimedia, and uncheck Show Pictures.


The New York Times On The Web
Click here to find out more!
Open a Hemisfleet account and get $100 Credit!
Bush Gives DeLay a Lift, as the Senate Tackles Social Security
By MARIA NEWMAN
The president offered a gesture of support for House Majority Leader Tom DeLay, and the Senate Finance Committee began hearings on Social Security
Syrian Troops Leave Lebanon After 29-Year Occupation
By HASSAN M FATTAH
Image Of The Issue
Herd of Buffalo Disrupts Traffic in Maryland
Click Here

Using *Firefox* on a laptop? One of the simplest ways to speed up page loads is to configure the browser so it doesn't download images.

Sonos Digital Music System
Premium home audio with a price tag to match
Digital Music System Sonos
www.sonos.com
KICK ASS
Technolust seldom penetrates the jaded, gadget-proof shells that calcify around all Maximum PC editors, but the Sonos Digital Music System shattered our composure with a massive kung-fu blow. You see, the Sonos system delivers something we've long craved: our entire music library at our fingertips, in every room of our house.
Even better, the Sonos pulls off this trick with minimal wiring and few sonic compromises. Two components work together to make the magic

Surf the web via Skweezer, and the service will reformat pages into a single column in real time.

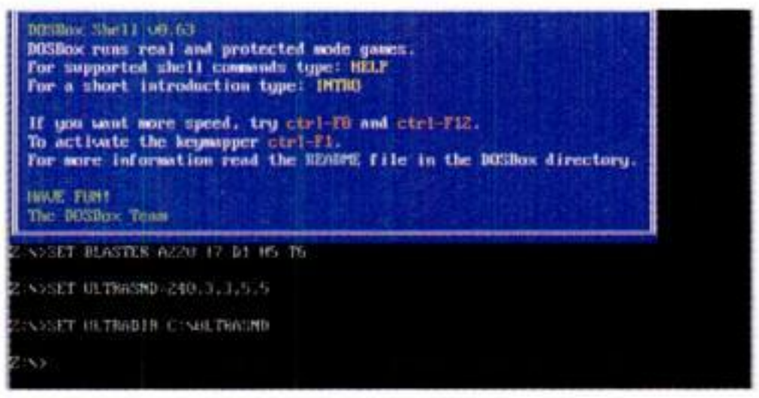
Play DOS Games in Windows Using DOSBox

Dig up those old floppies and dust off your ancient CD-ROMs, because when you can't get your old games to work using Windows Compatibility Mode, *DOSBox* will fool your games into thinking they're running on a DOS machine.

Download the latest version of *DOSBox* from **http://dosbox.sourceforge.net** and install it. Create a new folder—one on the C: drive works best—where you'll install your games; we named ours C:\oldgames. *DOSBox* will mount this directory as a virtual C: drive. Copy any games you want to play to the C:\oldgames folder. You should put each one in a subdirectory, but avoid using names longer than eight characters.

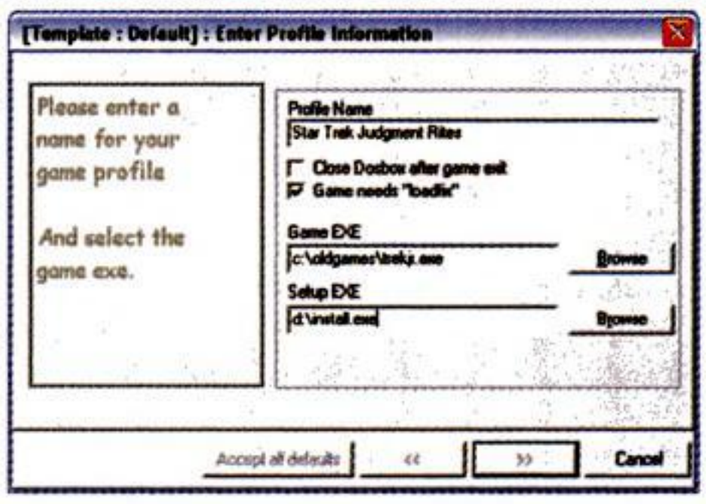
Launch *DOSBox*, then mount C:\oldgames as your C: drive by typing "mount C C:\oldgames." You should see a Z:\ prompt. Type C: to go to your new, virtual C: drive, and you'll see the contents of your C:\oldgames directory!

If your old game came on CD-ROM, the strategy is a little different. After you launch *DOSBox*, type "mount D X:\ -t cdrom" at the command line, where X is your CD-ROM drive letter. If you need help with the syntax, just type "intro cdrom" at the command line.


DOSBox Shell v0.63
DOSBox runs real and protected mode games.
For supported shell commands type: HELP
For a short introduction type: INTRO
If you want more speed, try ctrl-F8 and ctrl-F12.
To activate the keymapper ctrl-F1.
For more information read the README file in the DOSBox directory.
HAVE FUN!
The DOSBox Team
Z:\>SET BLASTER A220 I7 D1 H5 T6
Z:\>SET ULTRASND=240,3,3,5,5
Z:\>SET ULTRADIR C:\ULTRASND
Z:\>

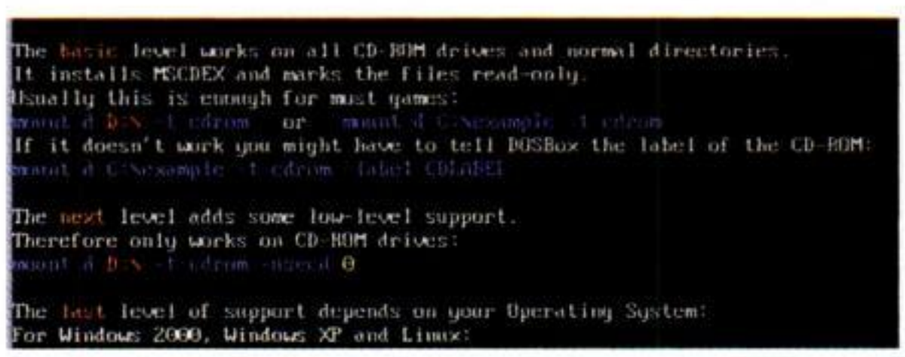
The return of ye olde command line: *DOSbox mimics* an old-school DOS PC.

If the command line is too stressful for you, there's an extra-fancy front-end for *DOSBox* called *D-Fend* that includes a wizard for setting up *DOSBox* and configuring hard-to-run games. You can download *D-Fend* for free at **http://members.home.nl/mabus/**.



***D-Fend* is the most sophisticated front-end available for *DOSBox*.**

It's extremely likely that some games are going to give you trouble and require further tweaking. Don't panic—just go to **http://vogons.zetafleet.com/** and check the DOSBox forum, where you'll find tips on running just about every classic PC game you can remember.


The basic level works on all CD-ROM drives and normal directories.
It installs MSCDEX and marks the files read-only.
Usually this is enough for most games:
mount d D:\ -t cdrom or mount d C:\example -t cdrom
If it doesn't work you might have to tell DOSBox the label of the CD-ROM:
mount d C:\example -t cdrom -label CDLABEL
The next level adds some low-level support.
Therefore only works on CD-ROM drives:
mount d D:\ -t cdrom -usecd 0
The last level of support depends on your Operating System:
For Windows 2000, Windows XP and Linux:

***DOSBox* can install and run your games from CD-ROM.**

When the mount has succesfully completed you can type C: to go to your freshly mounted C-drive. Typing dir there will show its contents. cd will allow you to enter a directory (recognised by the [] in a directory listing).
You can run programs/files which end with .exe .bat and .com.
For information about CD-ROM support type intro cdrom
DOSBox will stop/exit without a warning if an error occured!

***DOSBox* includes quick-start instructions from the command line.**

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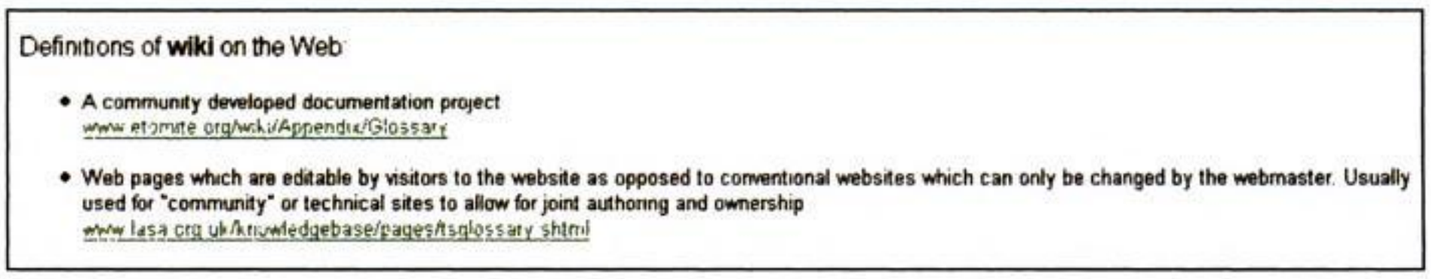
Use Google's Advanced Search Tools

Most people agree that Google is the best search engine, but you might be surprised to discover how powerful this tool really is. Here are just a few of our favorite advanced tools:

➤ Frequently it's faster to use Google than some site's crappy built-in search. To limit your query to a specific site, type `site: www.url.com` in the search box along with your normal query.

➤ Curious as to who's linking to your website? Enter your own URL in the search window, preceded by the word "link:" For example, to see the sites that link to *Maximum PC's* homepage, type `link: maximumpc.com`.


Definitions of wiki on the Web
• A community developed documentation project
www.etcmute.org/wiki/Appendix/Glossary
• Web pages which are editable by visitors to the website as opposed to conventional websites which can only be changed by the webmaster. Usually used for "community" or technical sites to allow for joint authoring and ownership
www.lasa.org.uk/knowledgebase/pages/tsglossary.shtml

Precede any search term with the word "define:" and Google will display all the definitions it can find on the web for that word.

➤ Need to solve mathematical equations, convert units of measure, or perform other basic arithmetic? Enter the formulas into Google and the Google Calculator will deliver the solutions right along with your search results. This query will convert miles into kilometers: `500 mi in km`.

➤ Need the definition of a word or new slang? Precede your search term with the word "define:" and Google will display all the definitions it can find on the web. For example, did you know that "WIKI" is an acronym for "What I know is"?

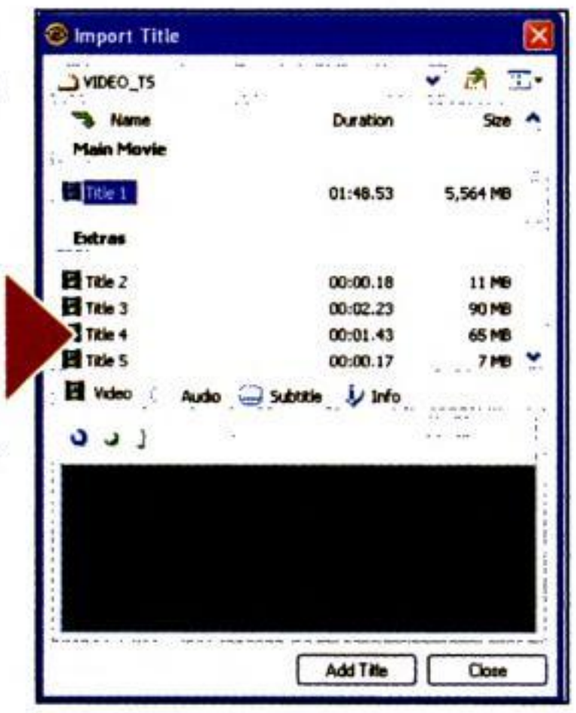
➤ Looking for a place to live? This awesome site (**http://paulrademacher.com/housing/**) superimposes real estate info from Craigslist.org on the Google Maps page.

RIP PSP-READY VIDEOS FROM YOUR DVDS

Sony's PSP is one of the hottest geek gadgets you can buy today. Not only is it good for games on the go, but its luscious, sharp, wide screen makes for *incredible* movie viewing. However, buying each movie twice—once on DVD and once on Sony's PSP-proprietary UMD format—sucks. Fortunately, you can take advantage of the PSP's integrated Memory Stick Pro Duo slot and purchase a high capacity Duo card—a 1GB card costs about $150—so you can convert your DVDs to play from the memory stick.

Video files for the PSP must be converted into a special MPEG-4-based format (called H.264), at one of two specific resolutions. The best freeware app we tested is *PSP Video 9* (**www.pspvideo9.com**), which can convert nearly any type of video to work on the PSP.

An even better solution is a combo of *AnyDVD*—an on-the-fly DVD decryption app (**$40, www.slysoft.com**)—and *Nero Recode*, a part of the *Nero Ultra* bundle (**$80, www.nero.com**). *Recode* is lightning-fast and produces excellent-quality videos at a reasonable file size (and if you own *Nero*, you've already got it!).



STEP 1: Once you've installed *AnyDVD* and *Recode*, fire up *Nero Recode* and select "Convert DVD and video to Nero Digital" and press next. Then click "Import titles" and browse to your DVD drive. You'll be presented with a list of titles you can preview to pick the right movie to encode. Click the title (or titles) you want to encode, and press Import. Make sure you give each video you import the appropriate name—that name will show up on your PSP.

STEP 2: Next, you'll click the Video button. *Recode's* good at setting crop and interlace settings automatically, but you'll want to select your own thumbnail image for the PSP. Click the Thumbnail tab, then scroll through the movie until you find the image you want for the thumbnail. Remember—it will be tiny on the PSP, so it needs to be something that's easily recognizable. Press OK, then click Next to move on to the next step.

STEP 3: Now you need to select the proper profile—you want Memory Stick Video (PSP compatible). We also recommend using the high-quality (2-pass) encoding method in the *Nero Recode* settings menu. Finally, make sure "Create Sony PSP folder structure" is checked, and press Burn to get ripping!

STEP 4: Once the rip is complete, you'll need to copy it to your PSP. Connect the PSP to your computer and enable USB mode, then simply drag and drop the entire folder that *Nero Recode* builds—it's My Documents/Nero Recode/MP_Root—to the root of your PSP's memory stick. Disconnect your PSP, and you're ready to watch movies!

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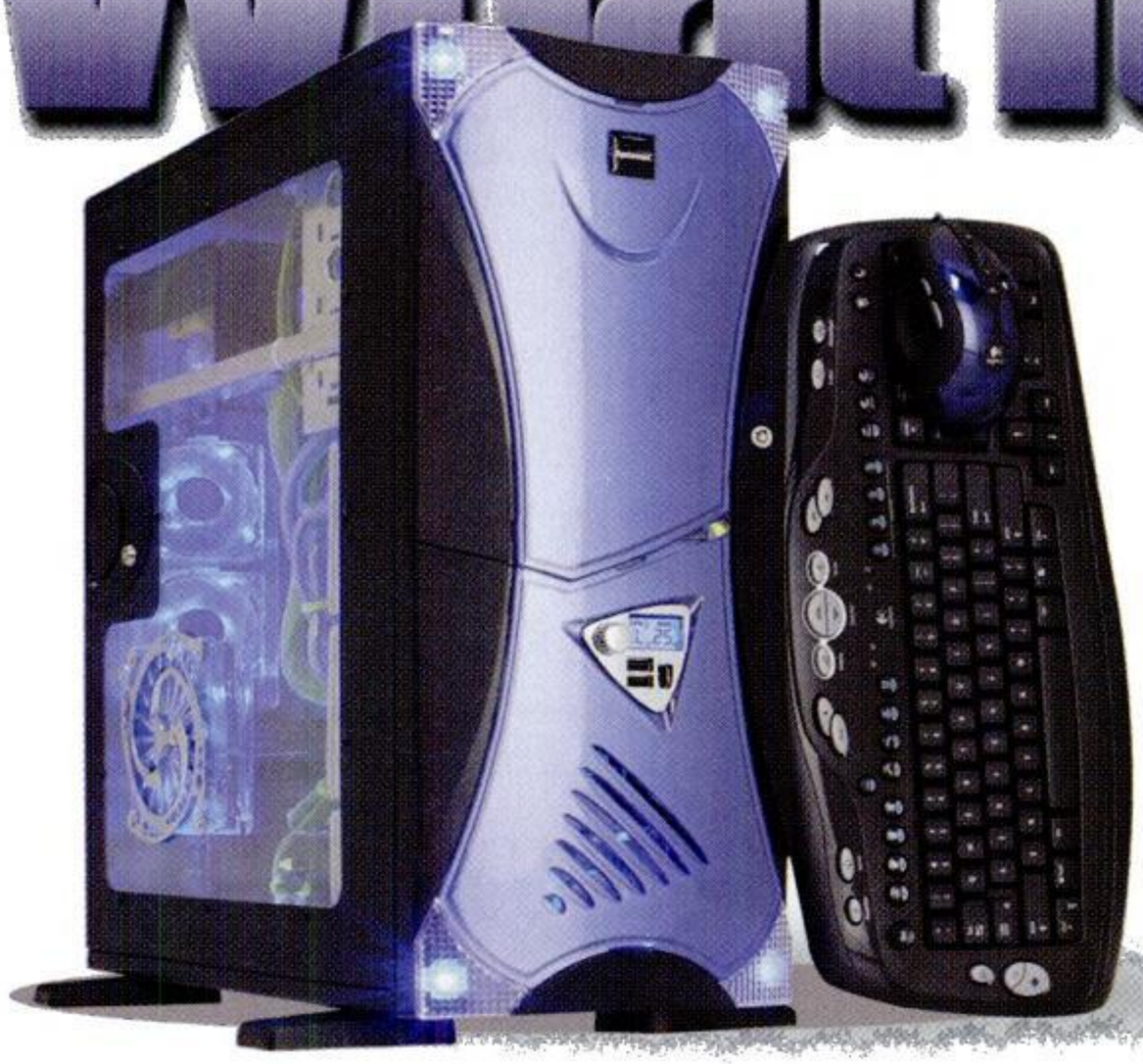
Systemax

Systemax recommends
Microsoft® Windows® XP Professional

Do You Have What it Takes



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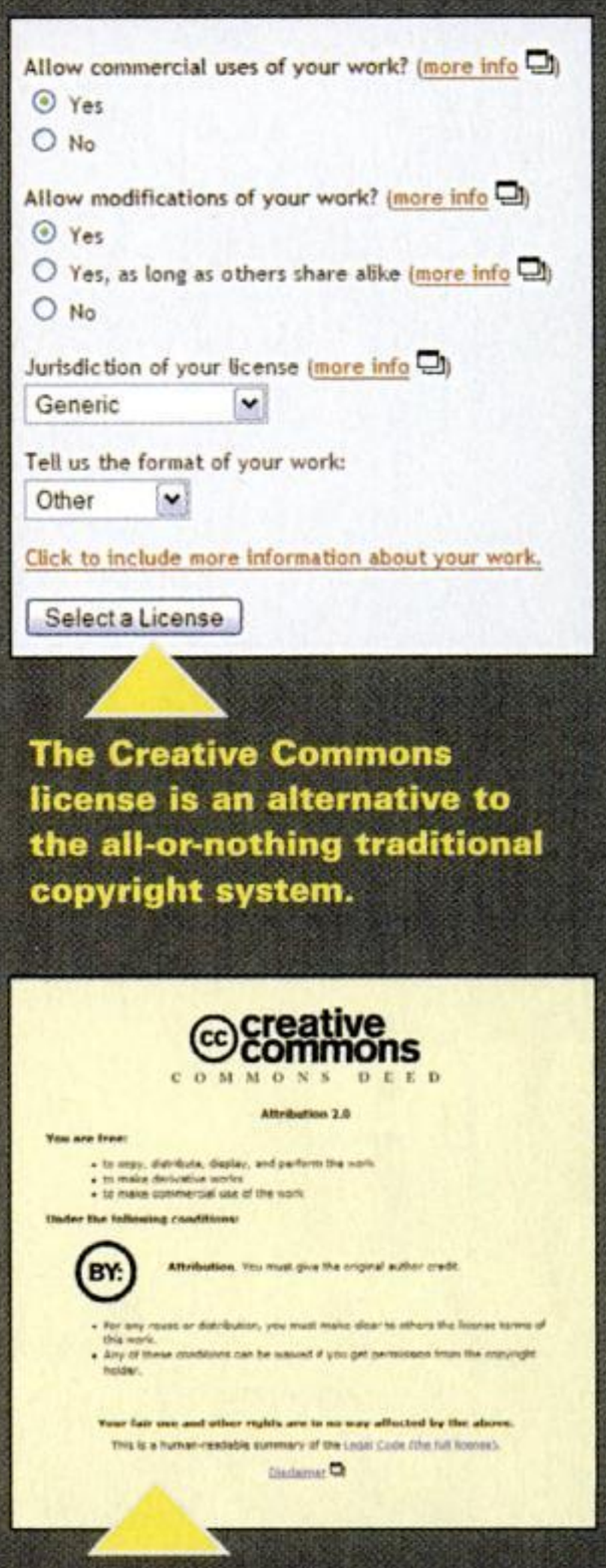
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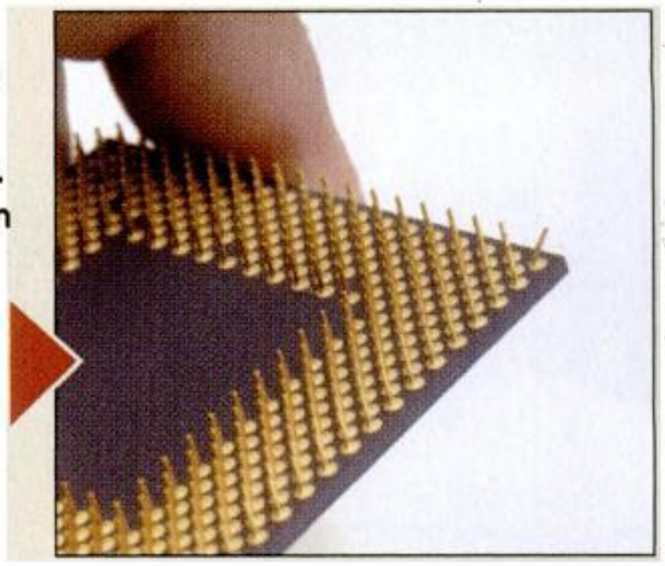
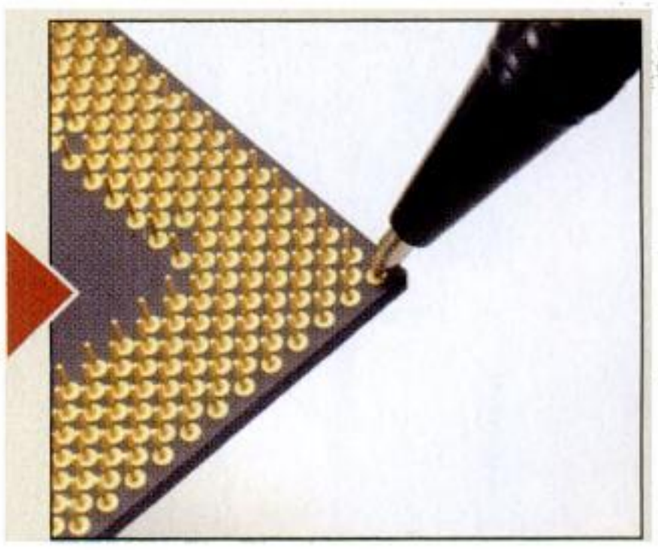
How to Fix a Bent CPU Pin



STEP 1: The PC builder's nightmare: a bent CPU pin. *Argh!* Accidents happen. But a bent CPU pin is a particularly expensive accident, and if you've ever tried to fix one with a pair of pliers or tweezers, you know you're just as likely to bend the pin even more, or bend neighboring pins trying to fix the first one. Lucky for you, there's a simple, virtually disaster-proof solution: A mechanical pencil. Yes, the tip of a 0.5mm mechanical pencil just happens to be a perfect fit for CPU pins!



STEP 2: All you'll need is a mechanical pencil with a tip that's at least four or five millimeters long. Empty the pencil of its lead, and slip the tip over your CPU pin until you reach the bend. Now gently—*gently*—ease the pin straight up. If in doubt, undershoot the repair, because it's safer to continue bending it in one direction than bending it back in the other.

How to Access the "Hidden" Internet

10. Swarm Intelligence (open window) [Set Page Alert]
SWARM INTELLIGENCE. James Kennedy. Russell C. Eberhart. with Yuhui Shi. Swarm Intelligence. James Kennedy. Russ Eberhart. with. Yuhui Shi. This page is maintained by Yuhui Shi
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Done

Using the Profusion search engine, we were able to find a voluminous book on "swarm intelligence" that other search engines couldn't find.

The "hidden" Internet is comprised of thousands of databases, archives, and non-HTML files that aren't accessible to the spiders or crawlers used by major search engines that index the web, and these resources are crucial to anyone doing serious research. Everything from medical journals to magazine back issues can be found if you know where to find the right search engine. Fortunately, there are already a large number of specialized search engines devoted to crawling these databases. Our first choice for looking up research that's not indexed by major search engines, or research that's listed far below commercial entries, is **www.profusion.com**. It's not a great resource for general browsing though, as the results are usually laser-focused on the minutiae about a topic, rather than the big picture.

If you already know what topic you want to research but aren't sure where to start looking, go to **http://websearch.about.com/od/invisibleweb/a/invisibleweb.htm**, where you'll find categorical links as well as referrals to other specialized search engines. And if you're trying to access information or media stored in government archives—domestic or international—you'll be astonished by the vast resources of the online Library of Congress, available at **www.loc.gov**.

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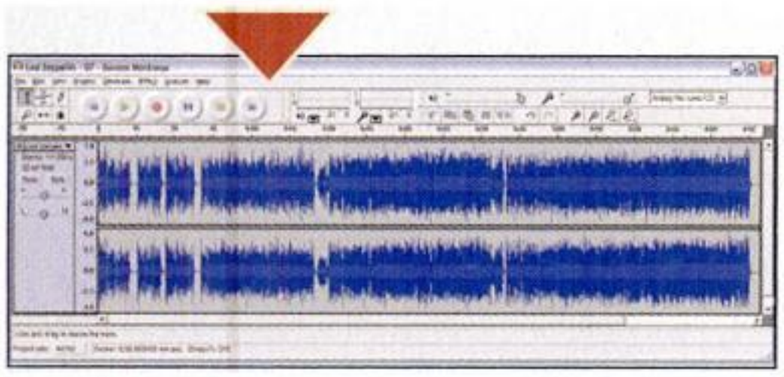
HOW TO CREATE AN AUDIO LOOP

The open-source, freeware audio editor *Audacity* can help you create a custom sound loop to spice up your DVD-Video menu, or provide a rhythm track for your guitar shred (if your drummer's in rehab).

STEP 1: Install Audacity

Grab *Audacity* from **http://audacity.sourceforge.net** and install it. Launch the application and select File > Open to load the audio track from which you want to extract a loop—we're after a portion of Led Zep's *Bonzos Montreux* because the long drum solos will be easy to grab and loop.

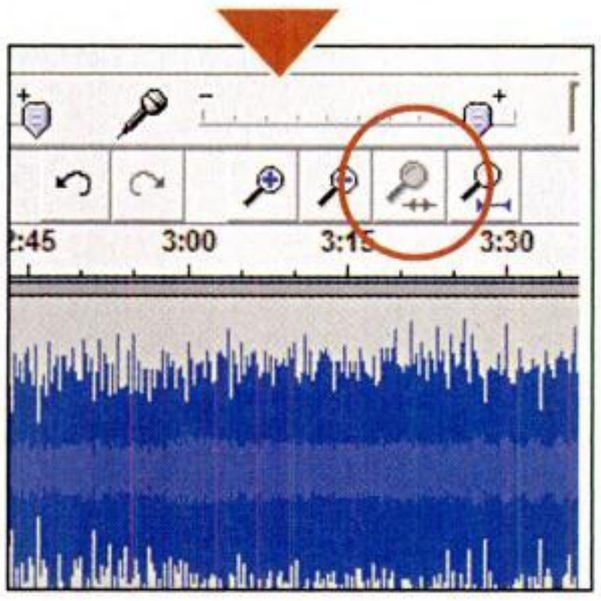


STEP 2: Find the Perfect Loop

Now you'll need to isolate the portion of the track you'd like to loop. We don't want the intro—the drum fill that begins the song would be annoying in a looped file. Instead, we want to capture the regular, driving beat afterwards. Press the Play button and watch the cursor move over the track as it plays, to get a general idea of where your loop begins and ends. Note how every drum hit creates a spike in the graph; your loop is going to begin with one spike and end a hair before another.

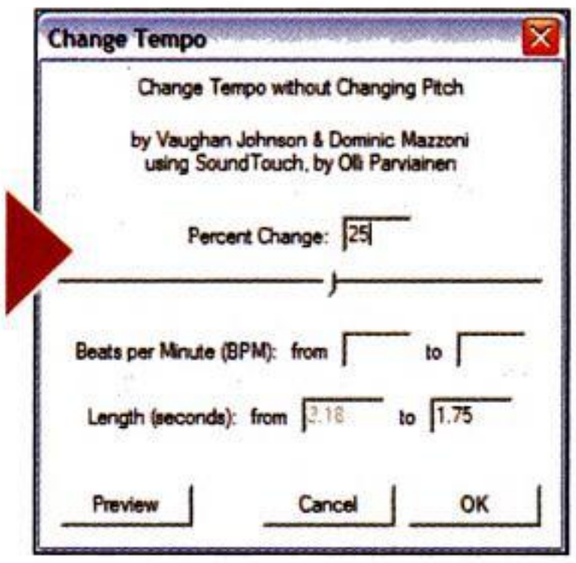
STEP 3: Zoom in for a Closer Look

Using your mouse, select the area between your loop's beginning and end—you don't have to be exact about it just yet. Then click the "Fit Selection to Window" button to zoom in on that portion.



STEP 4: Isolate Your Loop

Click the Play button again and repeat step two, visually locating the beginning and end points of your audio. You may have to repeat this step numerous times until you nail it exactly. When you think you've got it, highlight this portion of the audio track, hold down the Shift key and press Play again to audition your loop. If there's any stuttering or missed beats, keep adjusting your selection area until it plays seamlessly. Once you've aced it, press the yellow, square Stop button and select Edit > Copy.



STEP 5: Export Your Loop

Select File > Export Selection as WAV. Your finished loop will be saved to the directory of your choice. Alternatively, you can copy the selection via Edit > Copy, and paste it into a new Audacity file. From here you can apply effects to your loop from the Effects menu, changing the tempo, perhaps, or applying Cross Fade to smooth out the loop point of a selection that doesn't transition from the end back to the beginning smoothly.

FLUSH YOUR WORRIES AWAY!

The thoughtless hysteric will attempt to dispose of his or her USB key in the garbage disposal. Unwise. Flash memory can be surprisingly sturdy, and a decent laboratory may implicate you with the remaining fragments. Take a cue from the experienced junkie—wrap your key in toilet paper, and send it to the sewers via the porcelain throne, where your mashup of Eminem's "Ass Like That" and Morrissey's "Mario's Dance" will be discovered buried in the sea floor silt 300 years from now.

DON'T DO IT YOURSELF!

There are times when the work is best left to the professionals

Beauty is no longer just in the eye of the beholder. We're DIY evangelists, but we'll acknowledge that there are times when the effort just doesn't pay off. Crushed by the commercial failure of Maximum PC Case Frodz™ mod stickers, we now turn to Designer Skins (**www.designerskins.com**, check website for prices) for personalizing our fetish-gear. Download templates for your hardware (including PC cases, iPods, and Xboxes) from the web site, dress them up with your own designs, and then e-mail them back to Designer Skins. A cadre of grandmothers will put down their lace-making for a moment and turn your design into a custom stick-on skin that will be delivered to you within days. Now *that's* fancy!

With no annoying LCD to cover up, we trussed our iPod Shuffle in a gentle 60's pattern.

If you have a change of heart, don't fret: You can easily remove the skin and replace it with another.

MAXIMUM PC's Guide to

64 Bit

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The whole story on the arrival of 64-bit computing and what it means for PC power users

Windows XP Professional x64 Edition heralds the biggest change to Microsoft Windows in a decade. The move from a 32-bit to a 64-bit operating system with native applications and device drivers is reminiscent of 1995's replacement of 16-bit Windows 3.1 with 32-bit Windows 95. Yet history never repeats itself exactly. In 1995, 32-bit processors had already been in widespread use for six years. The move to 64-bit operating systems has taken far less time; the first 64-bit CPUs based on x86 architecture will actually taste the fruits of 64-bit processing. Of course, early adopters of Windows XP Professional x64 Edition can expect struggles with device drivers and incompatible applications.

Before you dive into 64-bit computing, know what you're getting into, and what you'll get out of it. Maximum PC has the answers you need to prep yourself for the adventure of 64-bit computing.

—MARK SOPER

Questions about the Soft Stuff

Q Which versions of Windows support 64-bit computing?

Currently, Windows XP Professional x64 Edition is the only 64-bit version of Windows available for desktop computers. Other x64 editions of Windows include Windows Server 2003, Standard x64 Edition; Windows Server 2003, Enterprise x64 Edition; and Windows Server 2003, Datacenter x64 Edition. Still other 64-bit versions of Windows, such as the now-discontinued Windows XP 64-bit Edition 2003 and the current Windows Server 2003, Enterprise Edition with SP1 for Itanium-based systems, are designed strictly for the Intel Itanium CPU, which uses a completely different architecture than x64-compatible processors.

Q Where can I get the 64-bit version of Windows?

The x64 editions of Windows Server 2003 became available in April 2005. Trial versions of Standard and Enterprise Editions are available at **www.microsoft.com/windowsserver2003/evaluation/trial/default.mspx**. Contact OEM vendors for evaluation versions of the Datacenter Edition (you'll find a list at **www.microsoft.com/windowsserver2003/partners/oems/64bitoems.mspx**).

Windows XP Professional x64 Edition became available in May 2005. Microsoft offers a preview kit on CD and downloadable trial software through the Microsoft Windows XP 64-bit website. For more information, see **www.microsoft.com/windowsxp/64bit/evaluation/default.mspx**. Windows XP Professional x64 Edition, unlike its 32-bit predecessor, will not be available at retail. It will be sold in "OEM" and system builder versions only. Thus, both off-the-shelf system purchasers and "white box" custom builders will offer it. It's possible to buy system builder versions of Windows bundled with your choice of hardware from some vendors, so you should be able to "roll your own" x64 Windows box.

Q Can I trade my current 32-bit version of Windows for the 64-bit version?

If you use Windows XP Professional, Microsoft will permit you to trade it in for the x64 version. However, there will not be a trade-in program for Windows XP Home Edition. The trade-in program is not expected to start until mid-2005, and it is not yet known if OEM versions will qualify or whether the trade-in will involve CDs or downloaded CD images as with the preview program. See the Microsoft Windows XP x64 website at **www.microsoft.com/windowsxp/64bit/default.mspx** for details.

Q What are the differences between the Windows versions?

Windows XP Professional x64 Edition's user interface is based on Windows XP Professional. Windows XP Professional x64 Edition is designed for 64-bit desktop processors that use the AMD64/EM64T architecture; its underlying design is based on Windows Server 2003 SP1. Unlike the 32-bit version of Windows XP Professional, the x64 version supports up to two processors and 128GB of RAM.

Q Can I run my current 32-bit software on the 64-bit version of Windows?

In many cases, you can run your 32-bit software on the new OS. Windows XP Professional x64 Edition (x64 Windows) can run 32-bit applications, but not 16-bit or MS-DOS applications. 32-bit applications that use 16-bit installers, however, will not install. The only 16-bit installers that x64 Windows supports are 16-bit Microsoft ACME Setup versions 2.6, 3.0, 3.01, and 3.1, and InstallShield versions 5.x. If you see a "Setup.exe is not a valid Win32 application" error when you try to install a 32-bit program, you'll need to hoof it to the company's website to obtain a software update (if one is available) before you can install the program. Applications that use 32-bit device drivers, including most 32-bit antivirus programs and some 32-bit CD- and DVD-mastering programs, will not work correctly. As an alternative, you can use x64 Windows' own CD-burning feature with a supported recorder. Some web resources to check for user reports of application compatibility include **www.winsupersite.com/reviews/windowsxp_x64_preview2.asp** and **www.planetamd64.com/lofiversion/index.php/t4103.html**. Check with your software vendors for patches and updates for existing 32-bit applications.

Before you assume that your 32-bit program won't work with the x64 Edition, check the installation location. The long-time default location of C:\Program Files is now used only for 64-bit applications; 32-bit applications need to use C:\Program Files (x86). In our tests of a smattering of

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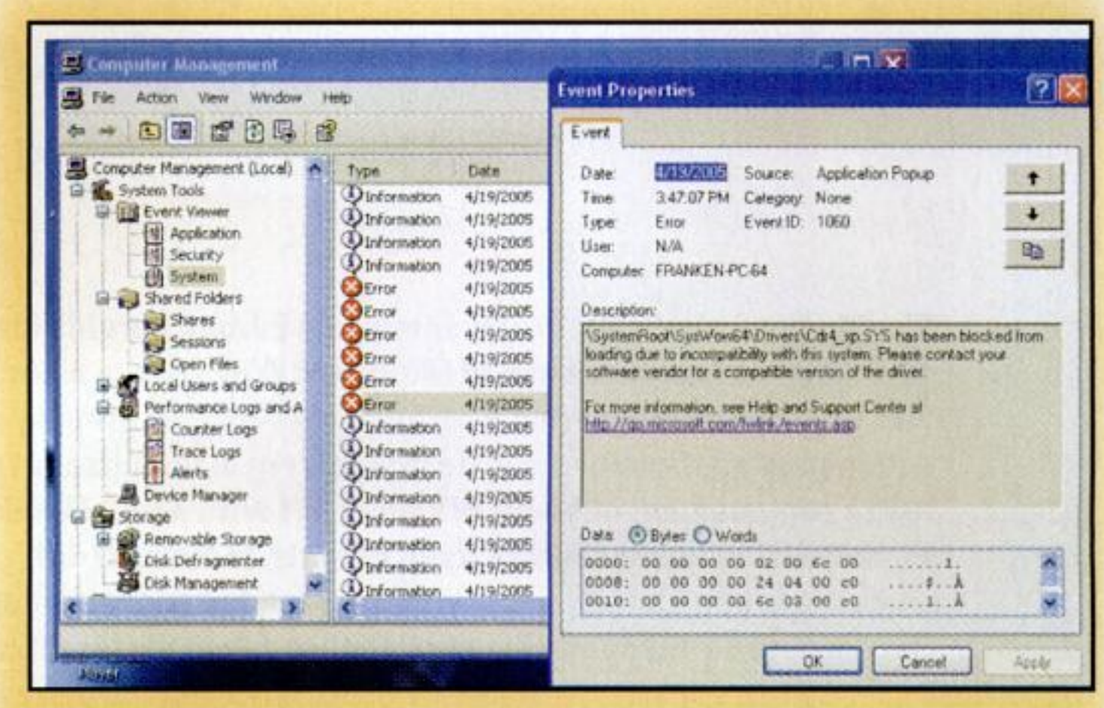
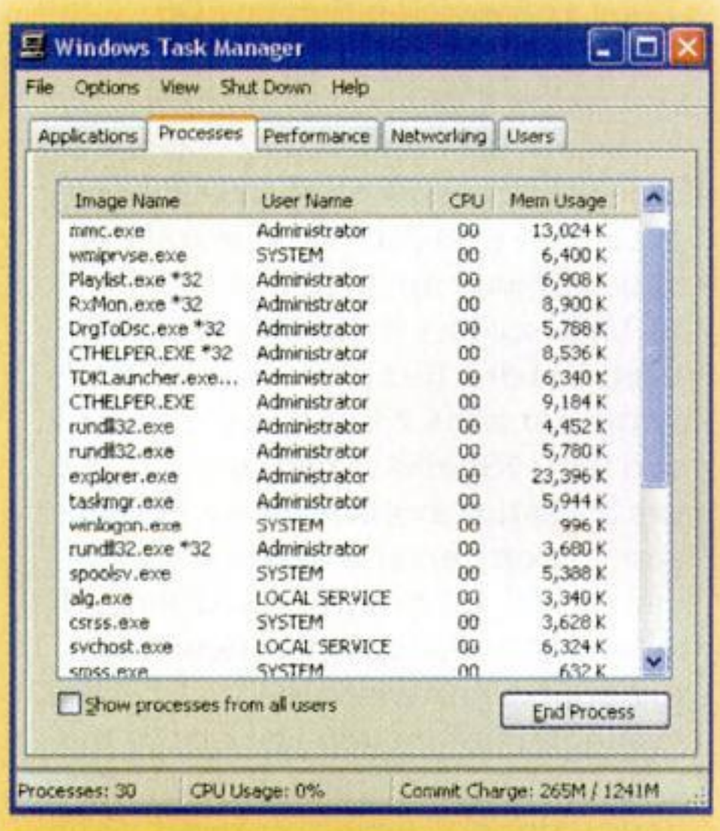
32-bit applications, x64 Windows automatically used C:\Program Files (x86) as the installation location. You can specify it yourself if you need to.

If you're wondering about 32-bit games, don't worry. The most popular 3D games—from *Half-Life 2* to *Doom 3* and *Far Cry* work fine on x64 Windows. As with Windows XP, x64 Windows offers a Program Compatibility Wizard (PCW) to help iron out any problems older 32-bit software might have. The PCW even offers a Windows XP setting designed to mimic the 32-bit version of Windows XP.

To compensate for the paucity of 64-bit plugins, x64 Windows includes both a 32-bit and a 64-bit version of *Internet Explorer 6*. Use the 32-bit version to surf sites that have content you can't access because of plugin or other issues.



If you see errors when you try to run a 32-bit program, check the System Log and Application Log to determine which program(s) are not compatible.


Windows Task Manager
File Options View Shut Down Help
Applications
Processes
Performance
Networking
Users
Image Name
User Name
CPU
Mem Usage
mmc.exe Administrator 00 13,024 K
wmiprvse.exe SYSTEM 00 6,400 K
Playlist.exe *32 Administrator 00 6,908 K
RxMon.exe *32 Administrator 00 8,900 K
DrgToDsc.exe *32 Administrator 00 5,768 K
CTHELPER.EXE *32 Administrator 00 8,536 K
TDKLauncher.exe... Administrator 00 6,340 K
CTHELPER.EXE Administrator 00 9,184 K
rundll32.exe Administrator 00 4,452 K
rundll32.exe Administrator 00 5,780 K
explorer.exe Administrator 00 23,396 K
taskmgr.exe Administrator 00 5,944 K
winlogon.exe SYSTEM 00 996 K
rundll32.exe *32 Administrator 00 3,680 K
spoolsv.exe SYSTEM 00 5,388 K
alg.exe LOCAL SERVICE 00 3,340 K
csrss.exe SYSTEM 00 3,628 K
svchost.exe LOCAL SERVICE 00 6,324 K
Show processes from all users
End Process
Processes: 30
CPU Usage: 0%
Commit Charge: 265M / 1241M

The Processes tab is almost identical to the 32-bit version, but it indicates 32-bit processes with *32.

Q Is there a performance hit when running 32-bit software on the 64-bit version of Windows?

No. Although x64 Windows uses a technology called Windows on Windows 64 (WoW64) to run 32-bit applications, the microarchitecture of x64-compatible processors handles 32-bit applications natively. Thus, the speed of 32-bit programs on an x64 system using a 64-bit OS is similar to the speed at which the same programs would run on the same system using a 32-bit OS. Each 32-bit program is granted either 4GB or 2GB of virtual address space, depending upon the design of the software. Software that can address up to 4GB of virtual address space might perform better when handling large amounts of data than programs that address only 2GB.

Q What kind of benefits do I get from running 64-bit?

The x64 version of Windows XP supports up to 128GB of physical memory and up to 8TB of address space for each 64-bit process. These allowances are far larger than 32-bit Windows' (4GB physical, 2- to 3GB address space for each application). Larger physical memory and address-space sizes enable 64-bit applications to support more users, reduce paging to and from the hard drive to deliver better performance, and accommodate larger amounts of data for memory-intensive applications such as video editing and scientific and financial modeling. A 32-bit application running under a 64-bit operating system can access 4GB of memory addresses, as opposed to the 2- to 3GB of memory addresses with current 32-bit operating systems.

All things considered, you can expect to see a performance boost in almost every case with 64-bit applications compared with equivalent 32-bit applications. Again, native 32-bit applications run at about the same speed on a 64-bit processor as they do on a 32-bit chip.

Q Which applications support 64-bit mode today, and who's planning to support it later?

Very few native 64-bit applications were available as of mid-April 2005. Register at PlanetAMD64 (**www.planetAMD64.com**) to find links to downloadable 64-bit applications and 64-bit device drivers. Another source is the Native 64-bit Software page at **www.3dvelocity.com/articles/win64compatibility/win64nativesoftlist.htm**. Microsoft expects most major software vendors to support 64-bit modes after x64 Windows begins shipping. For information on major software vendors already providing x64-compatible software, check out our "64-bit Driver and Application Watch" on page 44.

Q What hardware do I need to run the 64-bit version of Windows?

Windows XP Professional x64 Edition requires one of the following processors: AMD's Athlon 64, Athlon 64 FX, Athlon 64 X2 (dual core), or Opteron. If you prefer Intel CPUs, you'll need a Xeon with Intel Extended Memory Technology (EM64T) support, 6XX-series Pentium 4 (all of these have EM64T support), Pentium 4 Extreme Edition with EM64T support, or any Pentium D (dual core, code-named Smithfield). The system also needs a minimum of 256MB of RAM and 1.5GB of available hard disk space. But don't expect to be impressed running the 64-bit version of Windows using these minimum specs. We recommend 1GB or more of RAM.

Q I heard one of the big problems will be driver support. Is this still true?

Driver support is improving, but it's still a major issue. Although drivers for many core components are included with Windows, drivers for some popular chipsets might not be on the Windows installation CD. To determine if your core hardware components (motherboard chipset; videocard; add-on cards, such as network, sound, Serial ATA, dial-up modem; and others) are supported, go to **www.amd.com** and type "AMD64 device driver support for Windows" in the search box in the upper-right corner. This will take you to a page that lists drivers included in Windows XP Professional x64 Edition and also to links where you can download additional drivers. Another useful list is

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maintained by CDRinfo at **www.cdrinfo.com/forum/tm.asp?m=106657&mpage=1&#106817**. This page also contains links to downloadable drivers. If your hardware is not supported by the Windows CD, check your hardware vendors' websites for drivers, and consult our handy "64-bit Driver and Application Watch" on page 44. Alternatively, you could use a search engine to locate drivers. Searching terms such as "x64," "AMD64," or "x86-64 Windows driver download," in combination with the name of the product or chipset, will help you locate drivers. Although Windows XP Professional x64 Edition contains drivers for many older products, the lack of printer and scanner support for recent and current products continues to be a major weakness.

Questions about the Hard Stuff

Q Who first manufactured 64-bit PC processors?

Apple maintains that its G5 PowerPC processor, introduced in July 2003, was the first 64-bit desktop PC processor. AMD's Opteron, however, was introduced in April 2003; and despite being developed as a workstation processor, the Opteron has been used in a number of desktop systems—some of which were released as early as June 2003. Further muddying the waters, DEC (later acquired by Compaq) introduced its 64-bit Alpha CPU back in 1992. The Alpha was used in both server and workstation/high-end desktop roles. Although a 64-bit version of Windows NT was planned for Alpha, the project was killed in 1999. Today, various 64-bit Linux distros are available for the Alpha.

Q Who came up with 64-bit on x86 architecture?

AMD was the first to develop a 64-bit extension to the x86 architecture (the foundation of Intel's 8088 through Pentium 4 microprocessors, as well as AMD's Athlon-class processors). AMD made its technical documentation available to programmers in August 2000 in order to foster the development of AMD64-compatible software and hardware. Intel's EM64T architecture was developed from this information, and as a result, is almost an exact copy of AMD64—the only differences being the features needed for Intel processor-specific functions, such as Hyper-Threading (HT) technology and SSE3 instructions. Any 64-bit operating systems and applications made for x64 hardware will work with either processor architecture.

Q OK, what is AMD64, and how does it differ from the current x86 architecture?

Compared with x86-32, AMD64 provides twice the number of general-purpose registers, twice the number of XMM registers used for SSE and SSE2, and a much larger physical and virtual memory address space.

AMD64 can run in two modes: 64-bit mode, which supports native 64-bit operating systems and applications in 64-bit mode, and Compatibility Mode, which supports existing 32-bit operating systems and applications. AMD64's 64-bit/Compatibility modes are also referred to as Long Mode, to distinguish them from Legacy Mode, the family name for 32-bit and 16-bit protected, virtual 8086, and real-mode operations performed by older 32-bit and 16-bit processors. AMD64 also supports the NX (No Execute) bit in hardware, a feature that helps prevent the buffer-overflow attacks at the heart of so many Windows security "issues."

ARCHITECTURAL DETAILS	x86-32 (aka IA-32)	AMD64
GENERAL-PURPOSE REGISTERS	8	16
REGISTER SIZE	32 bits	64 bits
128-BIT XMM REGISTERS (SSE, SSE2)	8	16
PHYSICAL MEMORY ADDRESS SPACE	4GB in Windows XP (some operating systems support up to 64GB through address extensions)	1TB (Windows XP Professional x64 Edition is limited to 128GB)
VIRTUAL MEMORY ADDRESS SPACE	4GB	256TB

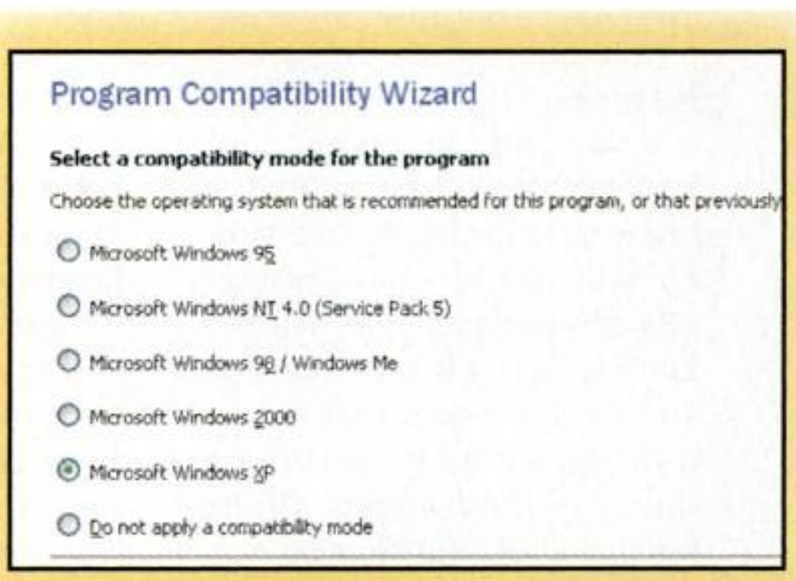
Here's what got beefed up in the transition from the current x86 architecture to AMD64.

Q What is the difference between x86-64, AMD64, and EM64T?

AMD originally referred to its 64-bit processor extensions as x86-64, but the company changed the name to AMD64 in 2003. EM64T is Intel's implementation of AMD64; for practical purposes, both extensions are identical.

Q Wait a minute: My RAM is already 128-bit, and I thought CPUs already worked in 64-bit. What gives?

Processors such as the Intel Pentium family and AMD Athlon family are designed to use 64-bit memory modules, although the processor's internal registers are only 32 bits wide. The x64-compatible processor families have 64-bit registers. The internal register size is used to indicate the processor type. The Intel Pentium and AMD Athlon processor families have 64-bit data buses (the processor's connection to memory) to improve performance over earlier 32-bit processors—such as the Intel 386 and 486 procs—which had only 32-bit data buses. Many recent systems have dual-channel memory bus designs. These systems use a matched pair of 64-bit memory modules (same size, speed, and latency) to improve memory performance. Although such systems use a pair of 64-bit modules, it's a misnomer to label the memory "128-bit," because the processor still uses a 64-bit data buses to communicate with the RAM.


Program Compatibility Wizard
Select a compatibility mode for the program
Choose the operating system that is recommended for this program, or that previously
Microsoft Windows 95
Microsoft Windows NT 4.0 (Service Pack 5)
Microsoft Windows 98 / Windows Me
Microsoft Windows 2000
Microsoft Windows XP
Do not apply a compatibility mode

Windows XP Professional x64 Edition's Program Compatibility Wizard includes Windows XP (32-bit versions) as a compatibility setting.

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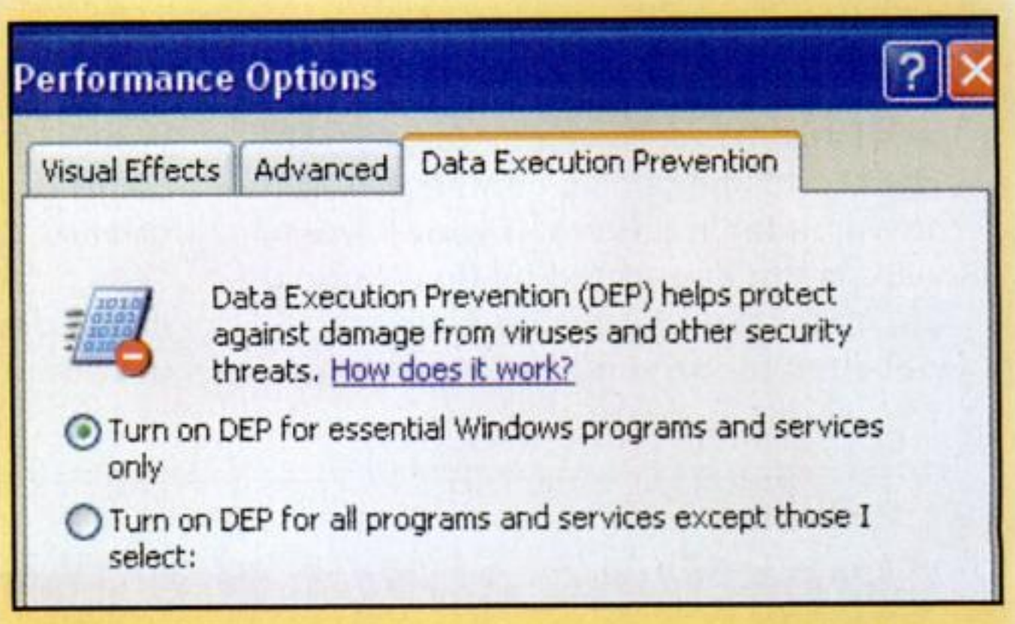
I know that the more RAM, the merrier. But are there limits other than the 128GB addressable by the 64-bit version of Windows?

The amount of RAM you can use is actually controlled by your computer's motherboard, processor, and operating system. A number of recent Pentium 4 and AMD Athlon XP motherboards, for example, can address up to 4GB of memory. Most 32-bit Windows applications, however, can use only 2GB of memory; the remainder is used only by the operating system. Most current motherboards made for Athlon 64 and Athlon 64FX processors also accommodate up to 4GB of RAM. Some workstation motherboards made for the AMD Opteron, on the other hand, can accommodate up to 16GB of RAM. In either case, 64-bit operating systems and applications can access the entire amount of memory on such systems.

Is the EM64T and AMD64 compatible with IA64?

IA64 is the term used to describe the processor architecture of the Intel Itanium and Itanium 2 family of processors. Intel designed IA64 as a brand-new 64-bit processor architecture with only limited support for x86 applications (via a pokey emulation layer). By contrast, AMD64 and EM64T are based on the x86, and their microarchitecture is directly compatible with x86 instructions. When you search for 64-bit software for your x64 version of Windows and 64-bit processor, don't bother with IA64 applications—they won't work on your system.


Performance Options
Visual Effects
Advanced
Data Execution Prevention
Data Execution Prevention (DEP) helps protect against damage from viruses and other security threats. How does it work?
Turn on DEP for essential Windows programs and services only
Turn on DEP for all programs and services except those I select:

AMD64- and EM64T-compatible processors include hardware support for Windows XP's new Data Execution Prevention (No Execute) feature.

I heard that x87 floating point, MMX, and 3DNow! will all go away with AMD64. What's the thinking behind this move?

The x87 floating-point architecture was originally used to support a separate 8087, 80287, 80387, or 487SX math-coprocessor chip; the functionality of the floating-point x87 is built into all Pentium-class and newer processors. CAD (computer-aided design) and spreadsheet programs used this chip to calculate high-precision math. The x87 stack-based architecture was difficult to code efficiently, so it's been replaced in the AMD64 architecture by what is called a "flat register file" with 16 entries. AMD64's use of SSE2 (Streaming SIMD Extensions 2) also permits 32-bit and 64-bit floating-point calculations. These are faster, have better throughput (up to twice as many calculations per clock cycle), and provide more accurate values than the x87 floating-point architecture. SSE2 also incorporates the functionality of the old MMX and 3DNow! instructions, so there was no need to include these features in AMD64 or EM64T 64-bit operations. Any 32-bit software that uses these types of instructions will work properly in AMD64 or EM64T's 32-bit mode. ■

The 64-bit Driver and Application Web Watch

Maximum PC's cheat sheet for tracking down 64-bit drivers

Your first stop should be the Planet AMD64 website at **www.planetAMD64.com** for news about 64-bit drivers and applications (you must register at the site to see driver and application downloads and to use some other site features).

If you can't find what you're looking for there, the following major hardware and chipset vendors have posted x64 drivers as of mid-April 2005 (this list is subject to the whims of the webmasters). Use these links if the drivers provided in Windows XP Professional x64 Edition do not support your system. And, of course, AMD's own website, as we mentioned before, has a heap of links as well.

ATI Technologies: **www.ati.com** (Radeon and FireGL product families)
Broadcom: **www.broadcom.com** (BCM57xx NetExtreme Ethernet family; use drivers listed for Windows Server 2003 AMD x86-64)
Hewlett-Packard: **www.hp.com** (drivers for certain ProLiant workstations)
HighPoint Technologies, Inc: **www.highpoint-tech.com** (selected SATA RocketRAID, and ATA RocketRAID, ATA Rocket product families)
Intel: **www.intel.com** (motherboards based on 9xx-series chipsets)
Logitech: **www.wingmanteam.com** (game controllers)
nVidia: **www.nvidia.com** (GeForce, TnT, Quadro desktop and workstation graphics chipset families, nForce family motherboard chipsets)
Realtek: **www.realtek.com.tw** (selected AC97 audio and Ethernet chipsets)
Silicon Image: **www.siliconimage.com** (Sil3114 SATA RAID chipset; look for 64-bit Windows drivers in the Support/Download Center)
Silicon Information Systems: **www.sis.com** (motherboard chipsets, integrated graphics, audio, network; use drivers listed for Windows XP 64-bit Edition)
ULi Electronics, Inc (formerly Acer Labs): **www.uli.com.tw** (chipset drivers are listed as for Server 2003 AMD64)
VIA Technologies: **www.viatech.com** or **www.viaarena.com** (most drivers are supplied with Windows XP Professional x64 Edition; use drivers on website listed for Windows XP 64-bit if needed)

The following major vendors are offering x64-compatible versions or patches for their applications (some are beta versions) as of mid-April 2005:
Cakewalk: **www.cakewalk.com/x64/** (SONAR Producer Edition x64 Technology preview)
Computer Associates: **www.ca.com** (eTrust Antivirus 7.x)
IBM: **www-306.ibm.com/software/data/db2/windows/x64.html** (beta of IBM DB2 database)
Oracle: **www.oracle.com** (Oracle Database 10g 10.2 Release 2 in 32-bit and 64-bit versions for x64)
Persistence of Vision: **www.povray.org/download/** (POVRay raytracer)
Sun Microsystems: **http://java.sun.com** (Java Runtime Edition 5.0 and Java Development Kit 5.0)

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PORTABLE POWER! Today's mega-notebooks have bigger screens, faster

Panic ensues when someone's carry-on baggage begins buzzing; it's discovered to be a harmless personal item—yes, an electric shaver—but your flight is still delayed for four hours. Sure, you can dull the pain with endless rounds of *Minesweeper* or pass the time cooking your company's books in *Excel*, but wouldn't you rather finish the expansion pack to *Doom 3*, log a little time in *World of Warcraft*, or edit that video project you've been working on?

You can do all those things and a hell of a lot more with today's power notebooks. For the first time, the power laptop can compete with its desktop counter-

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procs, and more features than ever before—but do they pack enough performance to blow you away?

parts. With graphics chips that rival desktop parts, CPUs just shy of 4GHz, and even—*get this*—SATA RAID on some models, the only thing that's missing is a Sherpa to haul these beasts for you on the road.

We gathered five of the fastest notebooks on the planet and pitted them against each other to see which one packs enough power to truly replace your desktop—testing everything from gaming on the go to portable video editing. What if the laptop you're eyeing isn't featured? Turn the page for a quick jaunt through our complete buyer's guide.

—GORDON MAH UNG

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The Notebook Buyer's Guide

If you're going to drop two, three, four grand or more on a notebook, you need to know more than just the specs. To get the most from your notebook dollar, you need to know which parts are worth the bucks, and which parts won't pay off in a performance portable.

CPU

Intel's Pentium M—aka Centrino—is the most popular processor for notebook computers. It's very fast, sips the battery, and doesn't produce a lot of heat. The Pentium 4's scorching heat and rapacious appetite for battery power makes it suited mainly for desktop replacement use, where it will travel only short distances.

AMD's Mobile Athlon 64 is a competent alternative to the mobile Pentium family, but the recently released Turion processor is claimed to be as power conscious as Centrino while offering support for 64-bit OSes. Until we see the numbers, though, we'd put our money on the Pentium M.

RAM

On the desktop, DDR2 RAM doesn't make a lot of sense to performance-minded folks because of the latency penalties at the lower speeds of DDR2/400 and DDR2/533. In notebooks, however, DDR2 has one advantage over DDR: power savings. DDR2 runs at 1.8 volts, meaning 1GB of DDR2 RAM will use less power than 1GB of DDR RAM. We still recommend 1GB as the minimum amount of RAM in any type of portable.

If you're going to spend as much on a laptop as some people do on their car, you'll want to be picky.

GRAPHICS

For gamers, the graphics chip should have even more bearing on your decision than the CPU, and today the new Mobility Radeon X800 XT Platinum Edition has the edge in gaming. Its 16-pipe design is nearly on par with the fastest desktop parts (SLI notwithstanding). But even nVidia's 12-pipe designs are competitive if you can overclock.

SCREEN

Whether you call it ClearView or TrueLife, skipping the anti-glare coating is the hottest trend in notebooks today. The shiny screens give movies and games extra depth and gloss. Unfortunately, these screens are also highly reflective, so if you happen to have an office with windows behind your desk, you might want to get a screen that features the standard anti-reflective coating instead.

MOUSE

Joystick or track pad? Most people prefer one over the other, so you should try both before taking the plunge. In some cases, you can actually get notebooks with both controllers.

OPTICAL DRIVE

Today, just like on the desktop, you want nothing less than an optical drive that burns both + and – DVD formats as well as double-layer DVD discs (with CD-Rs being a given).

HARD DRIVE

Ruling in both spindle speed and density, Seagate's Momentus 7200.1 gives you 100GB of capacity *and* 7,200rpm in one drive. You'll give up some battery life, but you'll get back performance in spades.

WIRELESS NETWORKING

Wireless PC Cards will set you back a mere 20 bucks these days, but not having built-in wireless is like buying a car without a stereo system. Today, 802.11g is the standard bearer for notebooks—802.11b is the bare minimum. The faster 802.11n standard won't be out for at least a year, so we don't recommend you hold your breath waiting for it.

BLUETOOTH

Thanks to a bungled launch that left us with a lingering hangover, the Bluetooth "cable-replacement" wireless standard still leaves us cold. It's only a must-have if you've got a Bluetooth phone. Otherwise, *feh*.

PC CARD/ EXPRESSCARD

The hoary 32-bit CardBus PC Card (aka PCMCIA) spec is ready to be decommissioned and ExpressCard peripherals are ready to take over. Although ExpressCard offers more than twice the bandwidth of CardBus, its adoption rate is molasses slow. Of course, because few notebooks actually need the massive input/output bandwidth ExpressCard offers, thanks to the integration of demanding components, it's not a make-or-break deal at this point.

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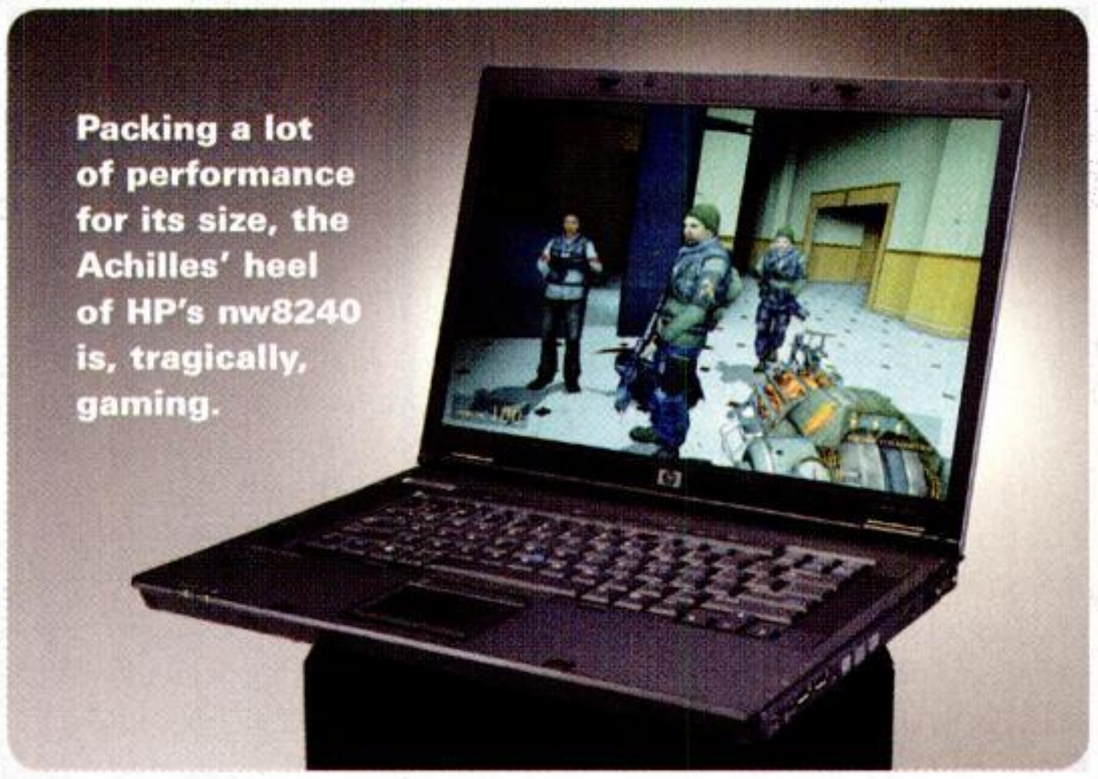
HP Compaq nw8240

Does HP stand for horsepower? Maybe it should



Packing a lot of performance for its size, the Achilles' heel of HP's nw8240 is, tragically, gaming.

If you can't beat 'em, out-shrink 'em. At least, that's what HP did with the Compaq nw8240. Classed as a "mobile workstation," the nw8240 earns its mobile tag; this appealingly thin notebook feels a bit like an IBM ThinkPad cross-bred with an Apple PowerBook. On the outside, it's no-nonsense black with rubberized controls, and just a tad thicker than a PowerBook—but inside it's no lily-livered G4. The Compaq features Intel's fastest 2.13GHz Pentium M operating on a 533MHz front-side bus. HP also wisely opted for a 7,200rpm Hitachi Travelstar drive and topped it off with an ATI FireGL V5000 GPU. The FireGL is essentially a professionalized version of a 9800 part, and includes eight pipes and 128MB of RAM. Though thin, the Compaq feels solid (even though the left mouse button squeaks a bit). The 1920x1200 display gives you an immense amount of desktop real-estate, but at 15.25-inches, its screen is a little difficult to read.

Don't let its small size fool you—the diminutive Compaq squirted past the bulky Dell XPS in our *Divx, Premiere Pro, MusicMatch,* and *Photoshop CS* benchmarks, which we attribute mostly to its faster 7,200rpm drive. The Compaq also yanked our crank by running *3DMark03* on a loop for more than two and a half hours on a single battery—excellent for a top-performance notebook.

The Compaq's biggest problem was its gaming performance. Though it sports an impressive amount of hardware in a thin package, the Compaq just couldn't keep up with the larger notebooks in any graphically intense tests. This is a substantial setback—after all, we're not buying this thing just to touch up photos at Starbucks.

This is a power notebook showdown, and while we were instantly smitten with the Compaq nw8240's svelte body, its small screen and middling gaming performance knock it back a few notches.

MAXIMUM PC VERDICT **8**

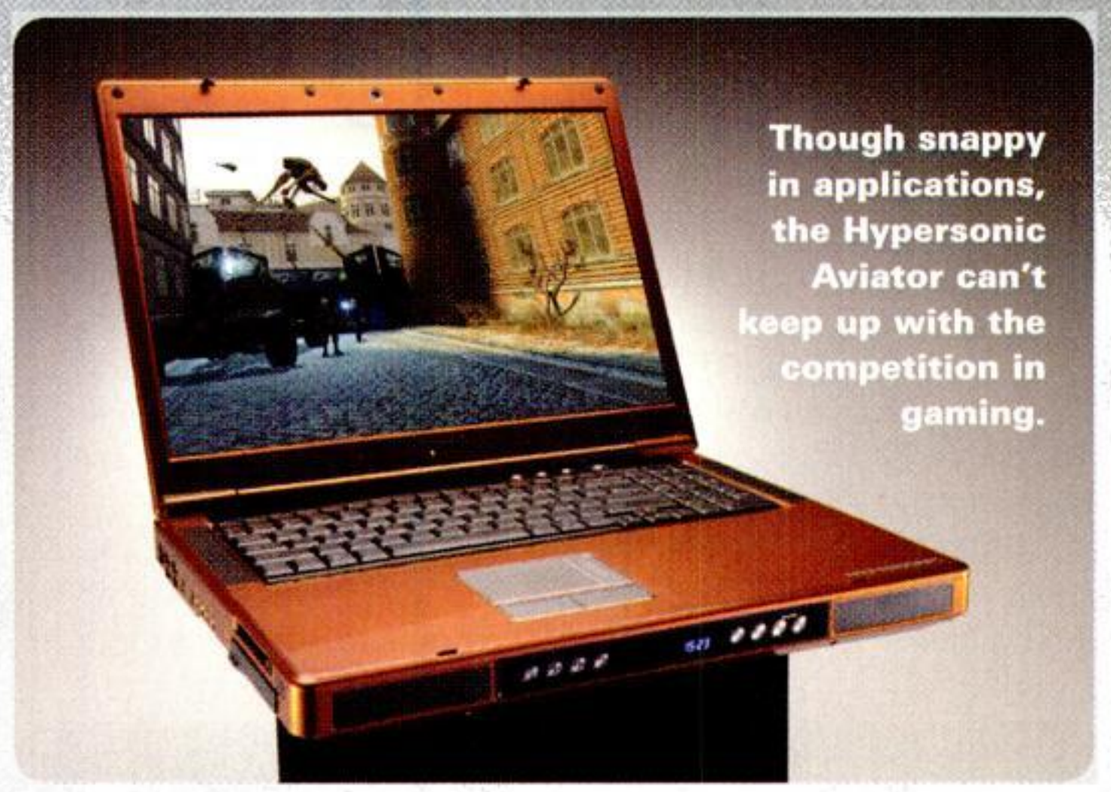
+ X-WING Amazing battery run time, even in graphically intense tests.

– TIE FIGHTER Lacks 64-bit support.

$3,710, www.hp.com

HyperSonic X800 Aviator EX7

Despite its name, this bird won't fly



Though snappy in applications, the Hypersonic Aviator can't keep up with the competition in gaming.

HyperSonic calls it the Aviator, but this laptop's massive size reminds us more of the humongous Airbus A380 than the Spruce Goose. The case sports unique styling—a distinctive paint job and custom lighting that illuminates the HyperSonic logo on the lid of the Aviator when it's turned on. Indeed, the machine's pure sex appeal earned it a resounding gee-whiz from staff members, in spite of its intimidating bulk.

Inside, the Aviator sports a ton of impressive hardware, including a 3.8GHz Pentium 4 570J, 2GB of DDR2/533 RAM, a pair of 7,200rpm Hitachi drives in a RAID 0 array, and an ATI Mobility Radeon X800 videocard. The same graphics chip is used in the CyberPower X7-9000 reviewed on the next page, but HyperSonic bags a speed edge by overclocking the GPU to 429MHz from 400MHz.

HyperSonic submitted the Aviator to us with the processor clocked up to 4GHz. After we experienced a smattering of error screens, however, we decided to review the machine at its stock speed of 3.8GHz, and it ran fine. (We requested a replacement machine from HyperSonic, and had the same problem.)

In application testing, the 3.8GHz P4 and RAIDed 7,200rpm drives gave the Aviator EX7 an edge over Alienware's machine in our *Divx, Photoshop CS,* and *Premiere Pro* tests. But the Aviator lagged behind CyberPower's X7-9000 in *Photoshop CS,* which we blame on the paltry 1MB of L2 cache on the CPU, versus the 2MB available in the X7-9000.

The Aviator fared worse in our gaming tests. In *3DMark05,* Alienware's Area-51M was a whopping 42 percent faster, and the Dell's XPS pulled ahead by roughly 26 percent. The Aviator was also solidly trounced by those same machines in our *Doom 3* benchmark.

The mortal wound is delivered by the price. The XPS and Area-51M are at least $700 cheaper than the Aviator. Combined with the instability and the average performance, we'll have to pass. We won't be collecting any frequent-flier miles with the Aviator.

MAXIMUM PC VERDICT **6**

+ HOWARD HUGHES Snappy design and impressive benchmark performance.

– HOWARD THE DUCK Bulky, unstable, and super expensive.

$4,390, www.hypersonic-pc.com

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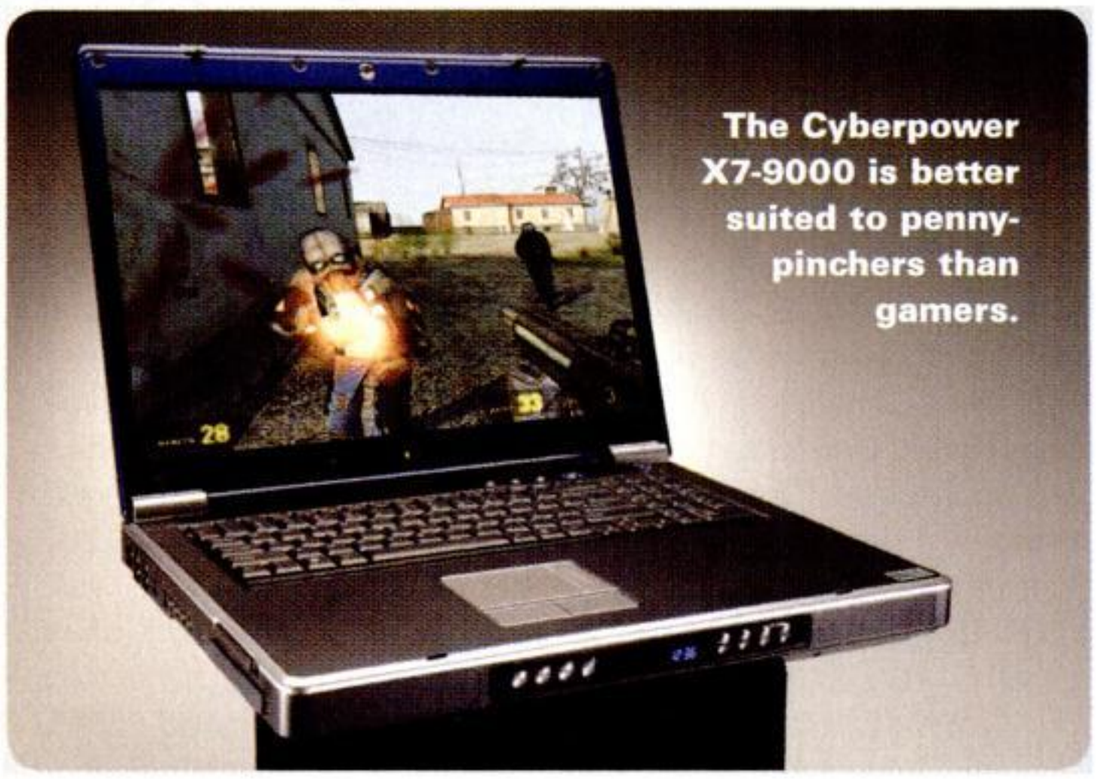
CyberPower X7-9000

Mediocre gaming performance at a minimal price

Hmm... looks suspiciously similar to the HyperSonic Aviator EX7, doesn't it? Here's a poorly camouflaged secret of the notebook industry: Almost every name-brand portable today is built by the same handful of Taiwanese companies. The chassis is the same, but PC vendors ultimately decide how the notebooks will be configured and customized. In this roundup, for example, we have three notebooks manufactured by Clevo, but outfitted in completely different ways.

CyberPower, for example, decided to forgo higher clock speeds in favor of more L2 cache. Instead of the 3.8GHz P4 570J that Alienware and HyperSonic selected, CyberPower went for a 3.6GHz P4 660. While the CyberPower X7-9000 gives up 200MHz of clock speed, it picks up double the L2 cache (2MB vs. 1MB) and support for 64-bit OSes. In a particularly nice touch, CyberPower also stuffs a decadent 2GB of DDR2/533 RAM into the X7-9000.

CyberPower's strategy paid off handsomely in our *Photoshop CS* and *3DMark05* CPU tests, moving to the head of the line in both benchmarks. But the X7-9000's 12-pipe Mobility Radeon X800 just couldn't compete with the faster graphics parts in the Alienware and Dell laptops. Perhaps it's just as well; this machine pushes the limits for thermals. After heavy use, the palm rests become extremely hot; we measured them at 115 degrees during our gaming tests! Although CyberPower priced and spec'd the notebook with wireless connectivity, we couldn't find any way to activate it.



The Cyberpower X7-9000 is better suited to penny-pinchers than gamers.

Despite the generous 2GB serving of RAM, the X7-9000 costs a mere $2,700—that's about $950 less than the Alienware and almost $1,700 less than the HyperSonic. You'll have to settle for a less-than-ideal gaming notebook, but you'll save enough cash to pay for a week's vacation in Cozumel.

MAXIMUM PC VERDICT 7

TAUNTAUN Pricing better than Crazy Edmund's Shack of Notebooks.

DEWBACK GPU isn't up to snuff, runs uncomfortably hot, and where's the wireless?

$2,700, www.cyberpowersystems.com

Alienware Area-51M

Hot in more ways than one

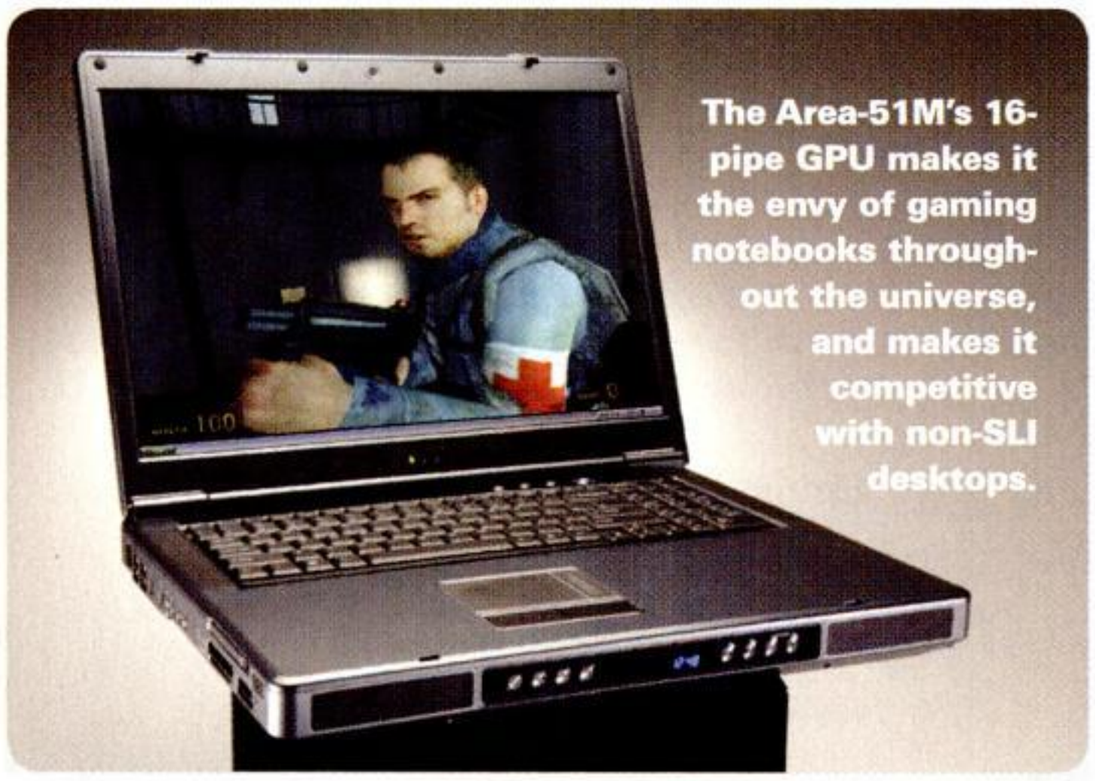
We figured the Area-51M would be the odds-on favorite to win, based solely on its impressive specs. After all, it would be difficult to beat a notebook with a 3.8GHz Pentium 4 570J, dual optical drives, dual 100GB Seagate 5,400rpm drives in a RAID 0 config, and—*suh-weet*—the new ATI Mobility Radeon X800 XT Platinum Edition.

The main difference between the Platinum Edition and the straight X800 parts in the CyberPower and HyperSonic rigs is the number of pipes. The Platinum Edition sports 16 pipes to the vanilla version's 12. The new card isn't without its bugaboos—we had to disable the chip's PowerPlay support (ATI's scheme to extend battery life) in order to get the notebook to run on battery power, a similar bug we ran into with the HyperSonic Aviator EX7. Additionally, wireless connectivity didn't work in our test unit (a problem that Alienware asserts has since been fixed), so the company shipped us a miniPCI card that we installed ourselves.

As we anticipated, the Area-51M blew away the competition with a wicked-fast score of 5,500 in *3DMark05*. Let's put this in context: The Dell XPS *desktop* computer reviewed on page 64 scored 5,914 3DMarks with its X850 XT Platinum Edition! In fact, the Area-51M's GPU is actually on par or better than a desktop GeForce 6800 Ultra card in some configurations. The Area-51M's only weakness was in the CPU-heavy *3DMark03* test.

We have reservations about using a full-tilt 3.8GHz P4 in a notebook. The poor battery life we expected, but the amount of heat the Area-51M generates is sadistic—use it long enough and you can fry up a grilled cheese sandwich on the palm rests. Some sections of the notebook's bottom measured 140 degrees F.

If you're pounding down a ton of video, encoding media, or you just have to have the fastest machine, scream "Kahn!" and get yourself this desktop-in-a-notebook-body. If you need a notebook that's actually portable and delivers great gaming, Dell's XPS makes far more sense.



The Area-51M's 16-pipe GPU makes it the envy of gaming notebooks throughout the universe, and makes it competitive with non-SLI desktops.

MAXIMUM PC VERDICT 9

ROSWELL A "mobile" part that competes with non-SLI desktop parts.

BERMUDA TRIANGLE Heavy, hot, and lacks 64-bit support.

$3,650, www.alienware.com

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The latest Dell XPS adds a bit of flash with color-customizable perimeter lighting. It's strength, though, is an admirable balance of power and portability.

Dell XPS

Can the Pentium M take on the Pentium 4?

In our last notebook showdown (April 2004), Dell shocked us by trouncing the boutique guys with a notebook sporting tons of 'tude and monster performance. Old Man Dell is back again, hoping to score another victory against the other top-class portable machines.

The second-generation XPS features a completely new look; the cool, change-to-match-your-mood perimeter lighting and a beautiful 17-inch 1920x1200 screen make us feel all tingly. Inside, Dell used a strategy that makes a hell of a lot of sense on paper, but struggles in the real world.

Instead of stuffing a Pentium 4 inside the chassis, which would have generated only slightly less heat than an exploding Death Star, the company went with a cool-headed 2.13GHz Pentium M. Dell then dedicated the remaining thermal budget to the nVidia GeForce Go 6800 videocard and cranked the hell out of the clocks. The 12-pipe 6800 in the XPS sports a core clock of 450MHz and a 550MHz DDR memory clock. Other 6800-based notebooks usually weigh in with a modest 300MHz core, 300MHz memory speed.

Dell's strategy pays off big-time for gamers—the XPS beat all comers in *3DMark03*, and tied even the mighty Area-51M in *Doom 3*. The results in applications were less spectacular, however. It's a given that the Pentium M lags behind high-clocked P4 procs, but the XPS was a percent or two slower than the similarly outfitted (but much smaller) HP nw8240 in our *Divx, Premiere Pro, MusicMatch,* and *Photoshop* benchmarks. We understand variances in benchmarks, but we detect a pattern here. What's the culprit? We suspect that it's two-fold. Dell used a mere 5,400rpm hard drive, and installed the Media Center 2005 version of Windows, which runs slightly slower than stock XP Pro. Nonetheless, both the XPS and the nw8240 notebooks were eclipsed by those running Pentium 4s.

In last year's desktop replacement roundup, Dell's XPS walked away with the trophy by crushing the competition into a thick, gooey paste in both applications *and* games. But it's not quite as definitive this time around. Alienware's Area-51M did deliver desktop-like benchmark scores, but at a huge cost: heat. Lot's of it.

The problem is that the Area-51M is too hot to use on your lap. The Dell XPS runs much cooler, but isn't as fast. You could say that there's no clear winner of this roundup. Or in another, more accurate way, you could say the scorching heat of the Area-51M tipped the balance in favor of Dell's XPS. We're disappointed that the XPS couldn't outrun the similarly equipped HP in the applications tests, and we made that clear by withholding our Kick-Ass award—this is the first notebook roundup we've run that didn't include a single Kick-Ass winner. But the XPS is still our first choice in a high-performance notebook for apps and games that won't break our backs, empty our wallets, or fry the family jewels.

MAXIMUM PC VERDICT 9

HAN Crazy-fast gaming performance; best speakers of the bunch, runs really cool.

GREEDO 5,400rpm hard drive; Media Center OS.

$3,420, www.dell.com

Copyrighted material

The Specs

Never before have we seen vendors lavish their notebooks with so many top-shelf components. It's a smorgasbord of PC goodness—if you've got the cash.

MAKE	ALIENWARE	DELL	HP	CYBER POWER	HYPERSONIC
MODEL	AREA-51M	XPS	COMPAQ NW8240	X7-9000	X800 AVIATOR EX7
CPU	3.8GHz Pentium 4 570J (1MB L2/800 FSB)	2.13GHz Pentium M	2.13GHz Pentium M	3.6GHz Pentium 4 560 (2MB L2/800 FSB)	3.8GHz Pentium 4 570J (1MB L2/800 FSB)
Chipset	Intel 915P/ICH6	Intel 915GM/ICH6M	Intel 915GM/ICH6M	Intel 915P/ICH6	Intel 915P/ICH6
RAM type/speed	1GB DDR2/533	1GB DDR2/533	1GB DDR2/533	2GB DDR2/533	2GB DDR2/533
Hard drive(s)	Two 100GB Seagate 5,400rpm in RAID 0	80GB 5,400rpm Hitachi	60GB 7,200rpm Hitachi	Two 60GB Fujitsu 5,400rpm in RAID 0	Two 60GB 7,200rpm Hitachi in RAID 0
USB, FireWire	4 USB, 2 FireWire	6 USB, 1 FireWire	3 USB, 1 FireWire	4 USB, 2 FireWire	4 USB, 2 FireWire
Graphics adapter	ATI Mobility Radeon x800 XT PE (16-pipe) 256MB	nVidia GeForce 6800 Ultra (12-pipe) 256MB	ATI FireGL V5000 (8-pipe) 128MB	ATI Mobility Radeon X800 (12-pipe) 256MB	ATI Mobility Radeon X800 (12-pipe) 256MB
Graphics core/RAM clocks	479MHz/560MHz DDR	450MHz/532MHz DDR	358MHz/358MHz DDR	400MHz/351MHz DDR	429MHz/357MHz DDR
Screen size and resolution	17-inch, 1680x1050	17-inch, 1920x1200	15.25-inch, 1920x1200	17-inch, 1680x1050	17-inch, 1680x1050
Other	TV tuner, camera, case included	Perimeter lighting	Touchpad/joystick combo	TV tuner, camera, case included	TV tuner, camera, case included
Network adapters	Gigabit	Gigabit, 802.11ABG, Bluetooth	Gigabit, 802.11ABG, Bluetooth	Gigabit	Gigabit, 802.11BG, Bluetooth
Ports	DVI out, S-Video, multi-format media reader	DVI out, VGA out, S-Video, SD reader	VGA out, S-Video, SD and SmartMedia reader	DVI out, S-Video, multi-format media reader	DVI out, S-Video, multi-format media reader

The Benchmarks

The performance gap among the various notebooks was tighter than we've ever seen, despite a disparate array of hardware.

MAKE	ALIENWARE	DELL	HP	CYBERPOWER	HYPERSONIC
MODEL	AREA-51M	XPS	COMPAQ NW8240	X7-9000	X800 EX7 AVIATOR
No. 1 DVD Ripper (sec)	1,721	1,946	1,898	1,771	**1,705**
Premiere Pro (sec)	480	686	665	492	**470**
MusicMatch 10 (sec)	**233**	275	268	256	236
Photoshop CS (sec)	360	394	381	**332**	344
HD Tach 3.0 (MB/s)	**61.5**	27.6	31.2	57.3	58.1
3DMark05 overall	**5,495**	4,889	2,461	3,702	3,882
3DMark05 CPU	4,715	4,576	3,839	**4,837**	4,744
3DMark03	11,098	**11,901**	6,170	8,914	9,186
Doom 3 1280x1024 4x AA, 4x aniso (fps)	**49.4**	49.1	WNR	26.5	27.4
Battery life: 3DMark03 (minutes)	43	92	**154**	30	33
Price	$3,650	$3,420	$3,830	$2,700	$4,390

Best scores are bolded.

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WANTED!

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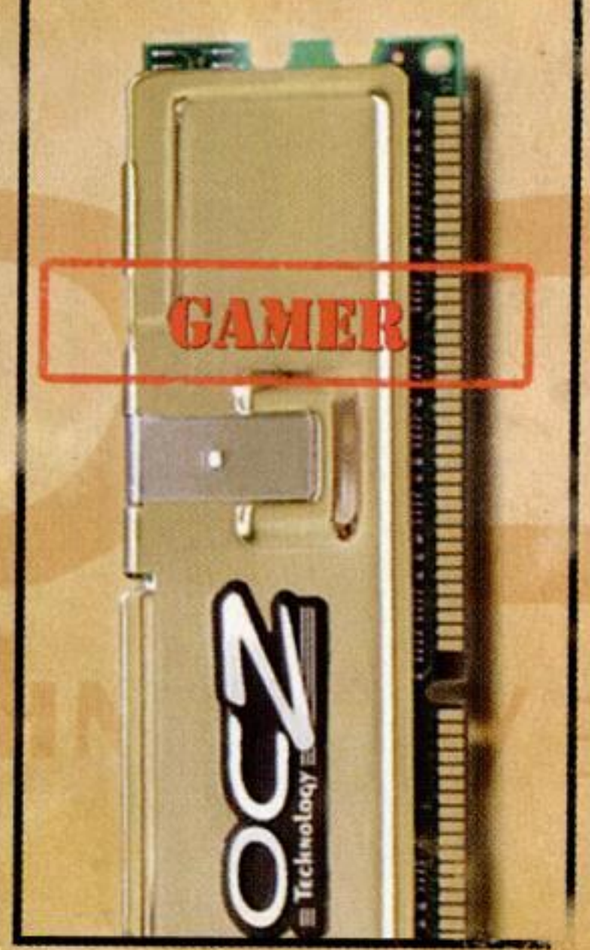

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Unauthorized, extreme gaming conditions, contributing to gamers' wicked behavior of unstoppable fragging day and night.

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The illicit act of posing as standard Value memory when in reality this high performance product is breaking the law of the inverse relationship of memory quality to price.

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For:
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How To...

A step-by-step guide to tweaking your PC Experience

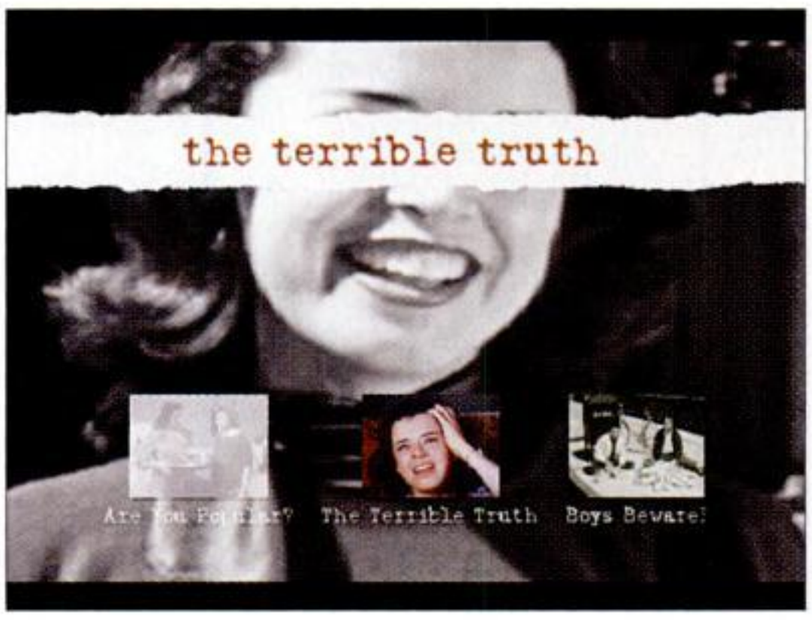
MAKE A SWANK-LOOKING DVD MENU

Ditch the templates—creating your own animated menu is a piece of cake!

BY LOGAN DECKER

MAXIMUM PC
TIME TO COMPLETION
00:25
HOURS MINUTES

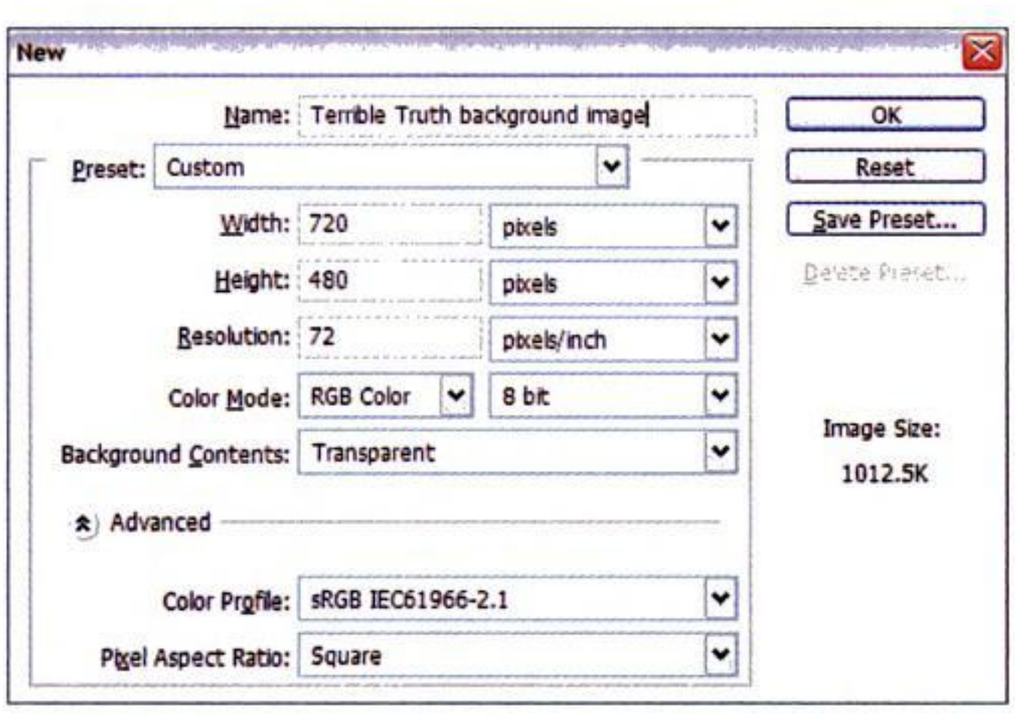
The menu templates included with most DVD authoring applications are too fugly for even ironic use. But that's just as well, because creating a sophisticated animated menu tailored to your content can take less time than burning the DVD to disc! Using *Photoshop* and *NeroVision Express 3,* we updated the orientation DVD that all *Maximum PC* interns are required to watch, so you can see just how easy it is—and how to get around some of the quirks.



STEP 1 Create a new background image file

Our first goal is to make a background image for our DVD menu. It's possible to make the entire background image a looping video clip, but we don't recommend it—animated backgrounds often make titles difficult to read. We're going to create our own background image instead, so we have more control over the color and typography than *NeroVision Express 3* offers.

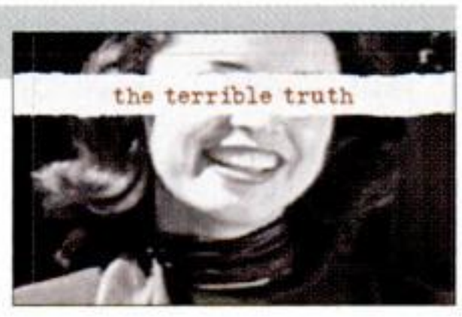
Open any image-editing program, such as *Photoshop, Gimp,* or even *Microsoft Paint.* Create a new image file that's 720 pixels wide and 480 pixels high at a resolution of 72 pixels per inch. This is the space you've got to work with for your DVD menu.



STEP 2 Design your background image

Now paste into this file the background image you want to use. We went with a screen capture from one of our movies—you can capture a screen using DVD playback software such as *WinDVD* or *PowerDVD.* We converted our image to black and white for a classic 1950s documentary feel, and massaged it a bit using *Photoshop's* FreeTransform tool to fit the 720x480 work area.

STEP 3 Create a title



This step can be done within *NVE3,* but we wanted more flexibility than the app offers to create an interesting image, so we used *Photoshop* to create our title. We scanned a piece of torn paper for the rough-edge look, and used *Photoshop's* Add Noise filter to make it look more like newsprint; we then used a classic typewriter typeface ("Love Letter") to create our title image. Now save the completed background image file to an "assets" directory—we like to keep each DVD menu's assets in a separate directory, in case we want to tweak the layout later.

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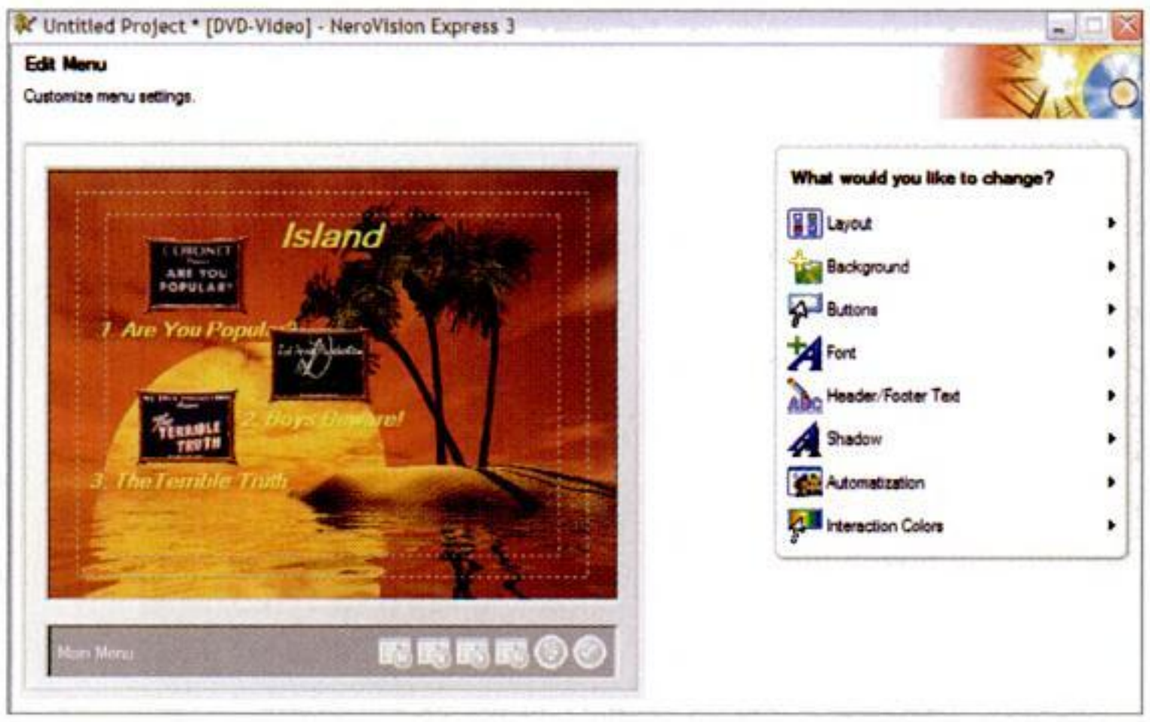
STEP 4 Begin building your menu in NeroVision Express 3

Fire up *NeroVision Express 3* and select Make DVD > DVD-Video. Select Add Video Files, and navigate to the folder containing your video files and load them one at a time. *NVE3* shows you how much room you've got left on the disc near the bottom of the window; as you can see, we've got plenty of space. Click the Next button.

STEP 5 Place your background image

You'll now be threatened with *NeroVision's* ghastly default menu template. Click Edit Menu. Right-click the "Island" title and delete it. Then, click the Background button, click the middle button to select your own background picture. Next, click the first blue button next to the Custom Picture window and navigate to your assets folder. Select your image and click OK.



STEP 6 Make better animated buttons

Click Buttons, and under "Button settings" click "Animate buttons." Under "Button frames," select "Use no frame." In the same menu, under "Text and numbering," select "Text only." Right-click your first video button and click Properties to select the start point for your video loop. When you're finished, you can adjust the loop length—the length of time each clip plays—via the Automatization menu button. We generally avoid lengths of less than 10 seconds, which tend to make clips appear as if they are stuttering; try to keep the loop lengths the same for all buttons. Finally, go to the Font menu and select a font and color (we used Love Letter again, in white). The option to change the font size only becomes available by clicking the "More >>" button near the bottom of the window and selecting Custom from the "Font height calculation mode" box. A font size of 7-point seems right to us.

STEP 7 Arrange your buttons

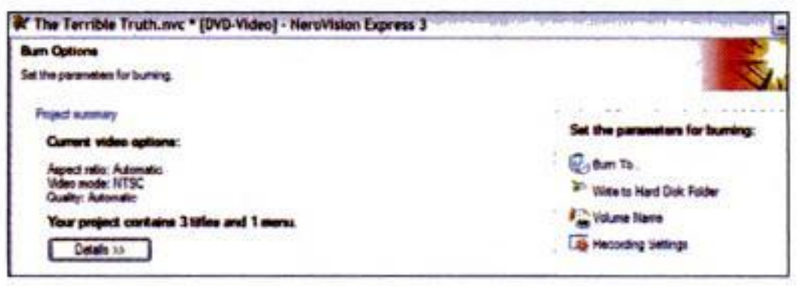
NVE3 allows you to position your buttons wherever you'd like, so take advantage of this feature! Be aware, however, that some television sets won't be able to display the full image area supported by the DVD-Video format, so the dotted lines you see in the menu preview screen represent the "safe area" where buttons should be placed so they won't get cut off on grandpa's wheezy, old color TV. When you're finished with this step, save your work.

STEP 8 Audition your menu

Now click the Next button on the bottom-right of the screen, and then click Next again to get to the Preview screen. Here you can preview your work as it will appear on your television or monitor, complete with a virtual remote to make sure the buttons link to the right videos. You can also preview the button animations and background music by clicking "Preview Menu Animation."

STEP 9 Burn your DVD

Click on the "More >>" button and then click the Default Video Options button if you want to adjust the video encoding options; otherwise, click Burn To and send your completed DVD to a recordable disc, or to a folder on your hard drive if you're planning to make multiple copies. Enjoy the show! ■



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Ask the Doctor

Symptom ▶ Diagnosis ▶ Cure

WILD TANGENT

After deleting a Wild Tangent program from my daughter's laptop, I now get a message with every power-up stating that the driver for Wild Tangent cannot be found. It then asks me to reinstall the program. I've searched for all files related to the program and the search comes up empty. Is there any way I can get rid of this?

—DAN BERTONE

By deleting the program manually, instead of using the Add/Remove Software control panel, you probably left behind some orphan Registry entries, including the one that automatically loads the Wild Tangent driver every time Windows starts. To stop that warning, go to Start, then Run, and type "msconfig." Go to the Startup tab and uncheck all references to Wild Tangent. The next time you reboot your computer, the error should be gone.

KILL YOUR TELEVISION

I work on my PC but I also use it to play PC games and watch TV. I was thinking of replacing my monitor, so I'd like to know if there's a good LCD TV that I can use as both a television and for PC games. What's the best LCD TV for PC gaming that comes in sizes of 23- to 32 inches?

—DANIEL ELLIS

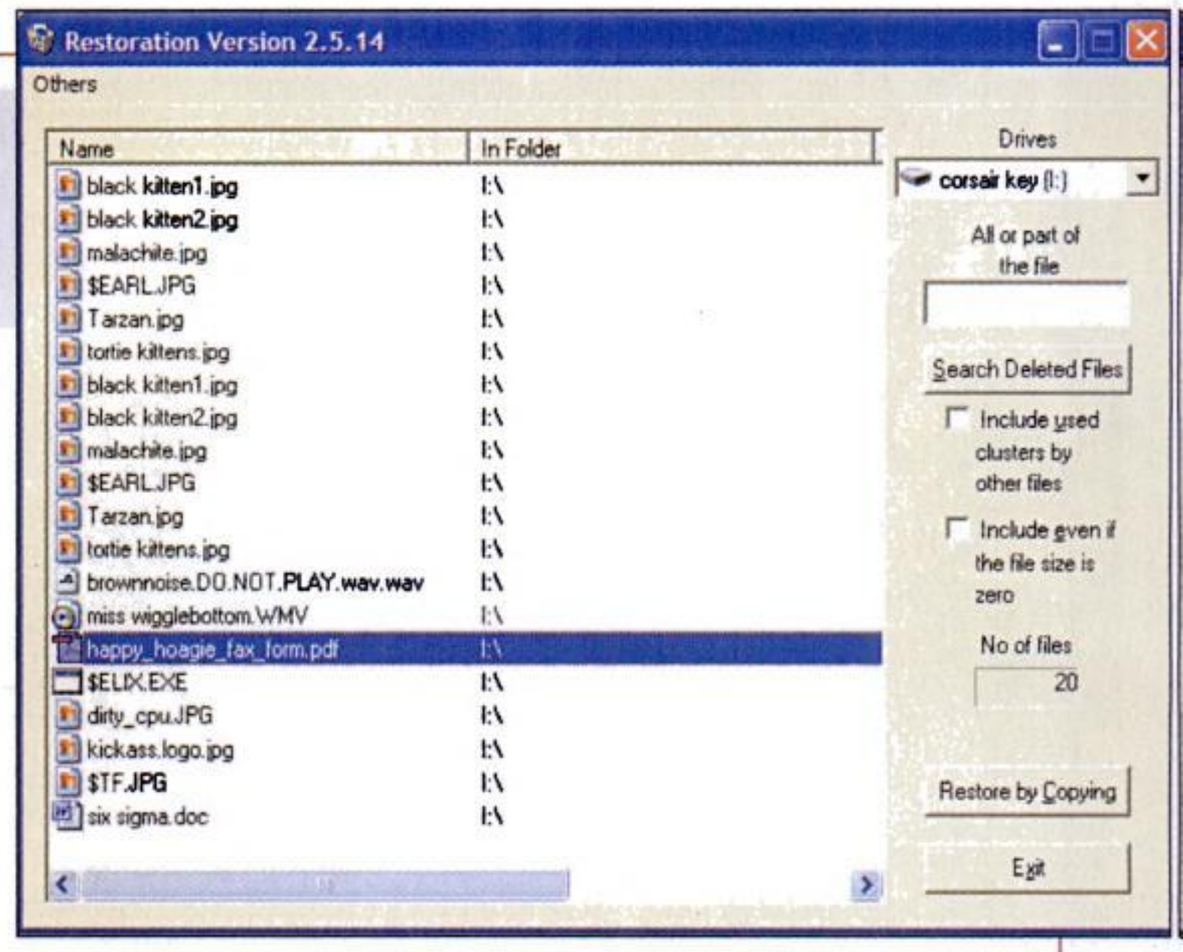
The Doctor doesn't have a specific product recommendation for you, but he does have some thoughts on the matter. LCD TVs, such as those you see at Circuit City, can be fine for TV, DVDs, and even gaming, but they're totally inappropriate for use as a desktop monitor. They're meant to be viewed from a distance, and are therefore typically limited to a 1280x768 resolution. If you watch TV through a cable or satellite box, you can always attach that device directly to a desktop LCD monitor, provided the monitor has the proper inputs (remember, you'll need a second DVI or component-video input for HD signals). Alternatively—and if you don't have a cable box—you can receive basic cable and over-the-air programming via an LCD monitor that's equipped with a TV tuner. Such a device will cost about $100 more than a traditional LCD monitor, but it can always be retired and used as a regular TV in the event you upgrade your monitor in the future. For the ultimate in functionality, however, we recommend you outfit your PC with a TV tuner. True, your PC will need to be running for you to watch TV (which isn't the case with the aforementioned solutions), but you'll get a much wider array of viewing options, including time-shifting, PVR, picture-in-picture, and so on.

COME BACK, LITTLE SHEBA

I use my USB flash drive to move files between my desktop and laptop PCs, and occasionally when a friend needs a small file. Somehow, a file I *thought* I had a backup copy of on my desktop machine got deleted from my USB drive. As it turned out, I didn't have a backup. When a file is deleted from a USB flash drive, is it deleted in the same way that a file is from a hard drive (by removing only the reference to the file)? And if so, is there a way to restore or reclaim the deleted file?

—BRADLEY STAPLES

USB keys do indeed work like regular hard drives in the sense that "deleted" files aren't actually destroyed when you hit the "delete" key. The deleted file remains in place, but all references to it are erased. The now-invisible files will remain on the drive until they are overwritten by new data. As long as the data hasn't been overwritten, it's very easy to un-delete it. Just download a handy utility called *Restoration*, which you'll find at www.snapfiles.com/get/restoration.html. This freeware utility will scan volumes for deleted files that are still recoverable. Point it to your USB key and it will show you all the files it can recover. Select the files you wish to recover, click the "restore by copying" button, and follow the instructions.



The freeware utility *Restoration* can salvage files from hard drives, USB keys, and other flash-based storage media.

WHEN DOES 200 EQUAL 186?

I'm sure many people have noticed that the advertised size of a given hard drive is not necessarily consistent with the actual available storage space on the drive. I just bought a 200GB SATA hard drive, and I noticed that the available space after installing the drive was only 186GB. What happened to the rest of the space?

—STEVE HUNKER

Ah, this old chestnut. This issue has sparked many an Internet flame-war over the years, and it boiled over into the courts recently in the form of a class-action lawsuit that accused several large OEMs of false advertising. The crux of the issue is this: Most hard drive manufacturers use the standard decimal system to describe the size of their hard drives, so according to their math, 1 gigabyte equals 1,000,000,000 bytes. A computer's operating system, however, uses the binary system, and according to that math, 1 gigabyte equals 2^{30} bytes (1,073,741,824). Your operating system, therefore, will "see" a 200GB drive as offering 186GB of storage space.

OUT, OUT DAMNED SPOT!

I do not use and cannot stand *MSN Messenger*—I consider it to be the root of all things evil. When I installed Windows, I specifically indicated that I didn't want that component, and yet the *Messenger* craplet is still in my Taskbar. I de-

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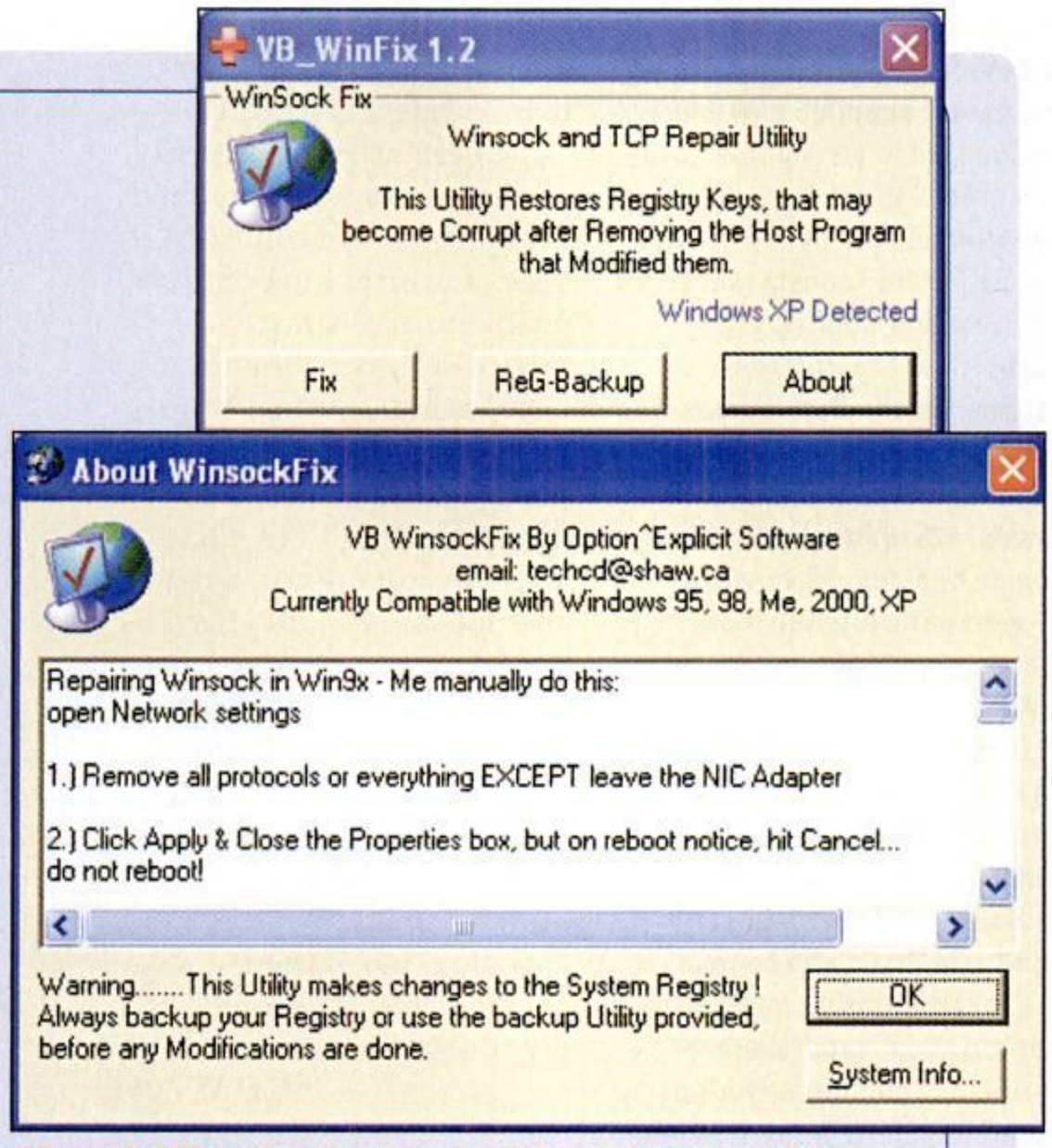
COULD IT BE KARMA?

My PC freezes up a minute or two after I launch any peer-to-peer application. It doesn't matter which one—*Kazaa, Bittorrent, eMule*—every one causes my PC to lock up so I have to reboot. The weird thing is that I can browse the web, use FTP, and do pretty much everything else online. I've checked for spyware but can't find any. Could I have downloaded an application that deliberately sabotages P2P apps under Windows XP?

—ANNIE TATUM


VB_WinFix 1.2
WinSock Fix
Winsock and TCP Repair Utility
This Utility Restores Registry Keys, that may become Corrupt after Removing the Host Program that Modified them.
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Fix
ReG-Backup
About
About WinsockFix
VB WinsockFix By Option^Explicit Software
email: techcd@shaw.ca
Currently Compatible with Windows 95, 98, Me, 2000, XP
Repairing Winsock in Win9x - Me manually do this:
open Network settings
1.) Remove all protocols or everything EXCEPT leave the NIC Adapter
2.) Click Apply & Close the Properties box, but on reboot notice, hit Cancel...
do not reboot!
Warning.....This Utility makes changes to the System Registry !
Always backup your Registry or use the backup Utility provided, before any Modifications are done.
OK
System Info...

Winsock XP Fix can perform quick and easy repairs on your PC's Winsock settings.

Well, it's possible, but doubtful. It's more likely you installed or removed software that messed with your network or Winsock settings (Winsock stands for "Windows Sockets," and it's the interface between applications and TCP/IP). In this case, the damage is preventing you from connecting to P2P networks.

Here's a quick and easy-to-swallow prescription: Go to www.softpedia.com/get/System/OS-Enhancements/Winsock-XP-Fix.html and download *Winsock XP Fix* (if this site is down, do a Google search for "Winsock XP fix," but make sure you download it from only a trustworthy source.) Launch the executable and click ReG-Backup (which will create a backup copy of your Registry settings—just in case). When the backup is finished, click Fix. The process takes about 20 seconds, after which you'll need to reboot. From there, you should have no problem using P2P applications to share what the Doctor is certain are works in the public domain.

selected it from startup using the MSCONFIG utility, but it doesn't seem to matter; I reboot, open *Outlook*, and it promptly comes back. I realize that I wouldn't have this problem if I used *Thunderbird* as an e-mail client, but *Thunderbird* doesn't support HTML mail.

—B.J. KOHO

First of all, *Thunderbird* does support HTML mail, though we don't know why anyone would really want that feature.

As for your *Messenger* issues: Assuming you unchecked the little box labeled "Integrate Messenger with Outlook" in *Outlook's* General options tab, getting rid of *MSN Messenger* can be tricky. The first thing you should do is install the latest version of *Outlook*. Some older versions are notorious for not honoring the user's choice to disable *Messenger* integration. Once you've updated *Outlook*, you might still occasionally see the unwanted *Messenger* program. Sometimes Microsoft will sneak *Messenger* updates into the Critical or Optional updates from www.windowsupdate.com, which automatically resets most of the *Messenger* preferences. If you never install the *Messenger* updates, this won't be a problem.

DRAG AND PLOP

I regularly use Windows XP's drag-and-drop tool to place files into the CD folder before I write them to CD. But the feature doesn't seem to work with recordable DVDs. Is this normal?

—PAUL FLETCHER

One might think that Windows XP would include native support for burnable DVDs, but sadly, it does not. The Doctor wholeheartedly recommends *Nero Ultra* ($80, www.nero.com) for your DVD-burning needs.

A CPU FOR NLE

I'm getting ready to build a rig specifically for serious video editing and DVD authoring. I will be using Avid software, including *Mojo, Xpress Pro,* and *Xpress Studio Complete*. Which CPU platform will perform best for this type of work, Intel's P4 Extreme Edition or Athlon's 64 FX-55? Any advice before I yank the band-aid would be greatly appreciated.

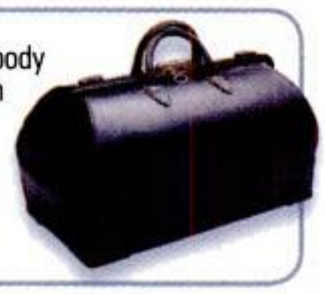
—GREG HAVENS

Although he has no direct experience using Avid products with the processors you mention, the Doctor is inclined to prescribe a dual-core CPU. Most workstation applications (such as those you mention) are multithreaded to take advantage of multiprocessor systems, so a dual-core proc should be a good match for your video-editing needs. Depending on how the applications are written, how they're compiled, and whether they're optimized for either the Athlon 64 or the Pentium will determine which platform they run fastest on. For the record, Avid's published PC system requirements for *Xpress* call for Intel processors. The Doc's educated guess is that Intel's dual-core Pentium D or Pentium Extreme Edition would outperform the equivalent Athlon 64 offering. Notwithstanding the weakness Intel's NetBurst architecture has with scientific and office apps, the Pentium dual-core proc does seem well-suited for most video-editing tasks.

NEW HOME INCOMPATIBLE WITH OLD PC?

For some reason my computer does not work in my new home. When I plug it in, the computer starts up, but then turns itself off within a few seconds. This same computer still boots fine in my old house, where it has run without incident

Just as the female praying mantis can't help but feast on the body of its mate, the Doctor is compelled to lord over ailing PCs—in a good way. If your computer is misbehaving, acting up, or generally out of whack, send an e-mail to **doctor@maximumpc.com** and the Doc will do all he can to fix your computing problems.



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for years. My PC is the only electrical device that's giving me problems, too. Is something wrong with my house's wiring? If so, where should I begin?

—EVERETT LINDSAY

The first thing you should do is to try plugging your machine into a few different electrical outlets around your house. The outlet you're using could be defective, broken, or improperly wired. The PC's power supply could be sensing an under- or over-voltage condition or an electrical short, and therefore shutting down in order to protect the machine. If the PC does work in another outlet, ask a qualified electrician to troubleshoot the outlet that's giving you problems. If your home is brand-new, demand that the builder look into the situation. It's important that you have the outlet repaired, even if you decide not to use it. A short-circuited outlet in your wall is a genuine fire hazard.

PROPRIETARY SUCKS

Help! I can't find a solution for my problem. I'm upgrading my computer, with the help of your fine magazine. I have a Dell 4550, which is about three years old, and I want new parts under the hood. My choices for videocard and memory are easy enough, but when it comes to a power supply and CPU, I fear I'm at the end of the road. I have a 250-watt power supply and my CPU is a 2.53GHz Pentium 4 in a 478-pin package. I see really cool stuff that I want, such as a 500-watt PSU and a 3.4GHz P4 with Hyper-Threading. Are these upgrade choices possible with my PC?

— GARY ALLEN

The Doctor has good news and bad news for you, Gary. You can upgrade your power supply, but as you probably know, Dell uses power supplies that it has "engineered to be superior to other units." Right. To us, that's a long-winded way of saying "proprietary," as in "nonstandard." PC Power and Cooling offers a Turbo-Cool 425 PSU that's designed for the Dell Dimension 4550. It's not 500 watts, but for what you can put into that chassis, 425 watts is more than enough; besides, PC Power's 425-watt units are like most other vendors' 500-watt jobbers.

As far as the Doctor knows, the Dimension 4550 uses a custom motherboard outfitted with Intel's 845D chipset and DDR-266 memory. Although the 3.4GHz P4 is a Socket 478 part, you can't install it in that mobo because the CPU operates on an 800MHz front-side bus—your motherboard won't support anything beyond a 533MHz front-side bus. Theoretically at least, the fastest CPU that will operate in your rig is a 3.06GHz Pentium 4. And while that proc and your chipset both support Hyper-Threading, Dell's original BIOS does not—and the Doctor doesn't believe that Dell ever subsequently added HT support.

According to upgrade vendor PowerLeap (www.powerleap.com), a 2.8GHz P4 is the fastest CPU the Dimension 4550 will support, but take our word for it, the jump from a 2.53GHz CPU just isn't worth the expense.

THREE-MINUTE HOURGLASS

I just built a system based on your November 2004 cover story. Its specs are: an Asus P5AD2-E Premium motherboard, a Turbo-Cool 510 power supply, an ATI X850 XT PCI Express videocard, 2GB of Crucial DDR2 memory, an Intel P4EE 3.46GHz processor overclocked to 3.8GHz, and two Seagate ST3300831 SATA hard drives in a RAID configuration. The computer takes about 75 seconds to boot, and after I log on, I'm unable to access my hard drive directories for almost three minutes. When I run Windows Explorer, I get the hourglass for about three minutes before I can click on a directory. I can launch an application right after boot, but when I go to open a file, I get the same delay with the file-open dialog box. After these initial delays have passed, everything's fine until next boot. It's really more of an annoyance than anything, but is there a way to track down the source of my problem?

— THOMAS ROPE

The first rule of overclocking, Thomas, is to back it down if you start experiencing weird issues. A 75-second boot with RAID is on the high side, but it isn't the end of world. Not being able to access your hard drives for three minutes, on the other hand, is a serious problem. The doctor advises cranking that CPU back to a stock 3.46GHz as a first step to see if your problem goes away. If it does, you're probably pushing the CPU a little too hard. You can fix it by either adding additional cooling (either liquid or phase-change) or by not overclocking so aggressively. SATA and USB are particularly sensitive to overclocking, so funky hard drive issues and mysterious problems with peripherals are fairly reliable indicators that you've gone overboard. ■

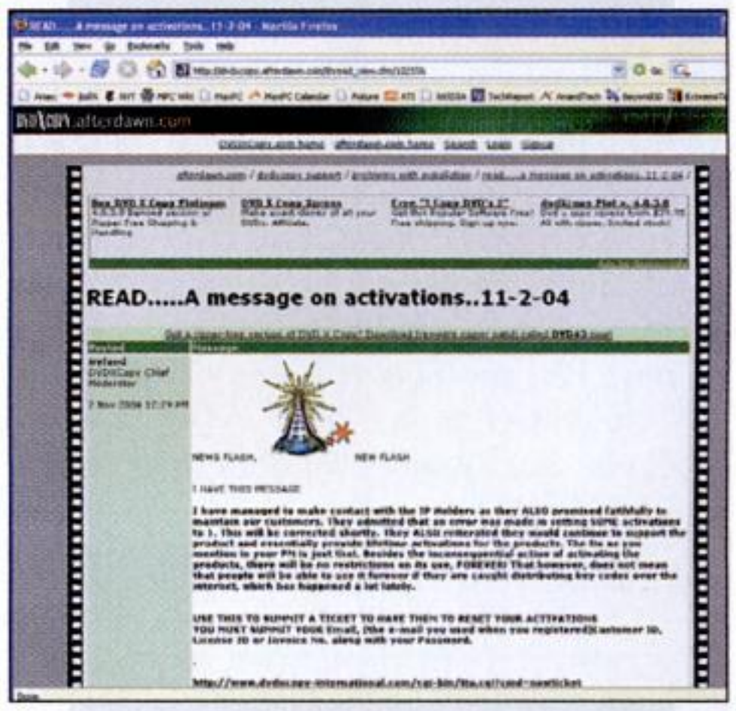
> ***"FUNKY HARD DRIVE ISSUES AND MYSTERIOUS PROBLEMS WITH PERIPHERALS ARE FAIRLY RELIABLE INDICATORS THAT YOU'VE GONE OVERBOARD."***

SECOND OPINION

DVD X COPY ACTIVATION

I read your reply in the March 2005 issue regarding the activation of *DVD X Copy Gold*, and it isn't exactly accurate. While I personally have not done it, it sounds as though you can still activate the software despite the company being defunct. Folks need to go to **www.dvdxopy.com** and login as a customer. Enter the license ID and password that are printed on the case of the install disc (these would have been e-mailed to you if you purchased the downloadable version). At the next screen, click the Details link. This should show you the number of activations left. Now, click the download button. If this doesn't work, click the Forums link on the home page and then go to the "Problems with Installation" link, where you'll find a thread (**http://dvdxcopy.afterdawn.com/thread_view.cfm/122156**) that provides instructions for obtaining an activation code from DVD X Copy International.

—DAVID TREMEWAN



A *Maximum PC* reader has found another activation solution for *DVD X Copy Gold* licensees.

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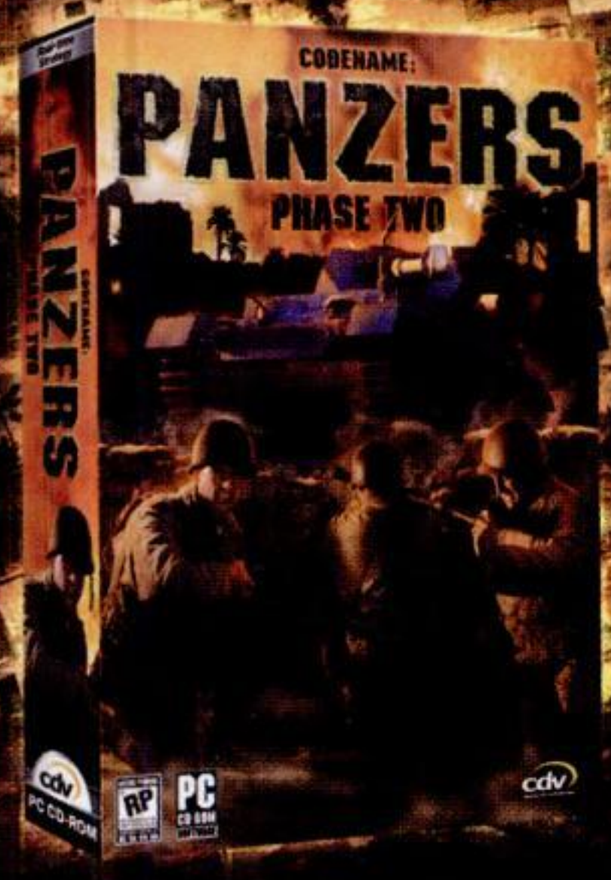
CODENAME:

PANZERS

PHASE TWO

"A GOOD MIX OF FUN AND FACT
THAT CAN TRANSLATE INTO A FIRE FRENZY
OF EXCITEMENT ON THE BATTLEFIELD."
- IGN

"...CAPABLE OF ASTONISHING
ZOOMED-IN LEVELS OF DETAIL."
- GAMESPOT



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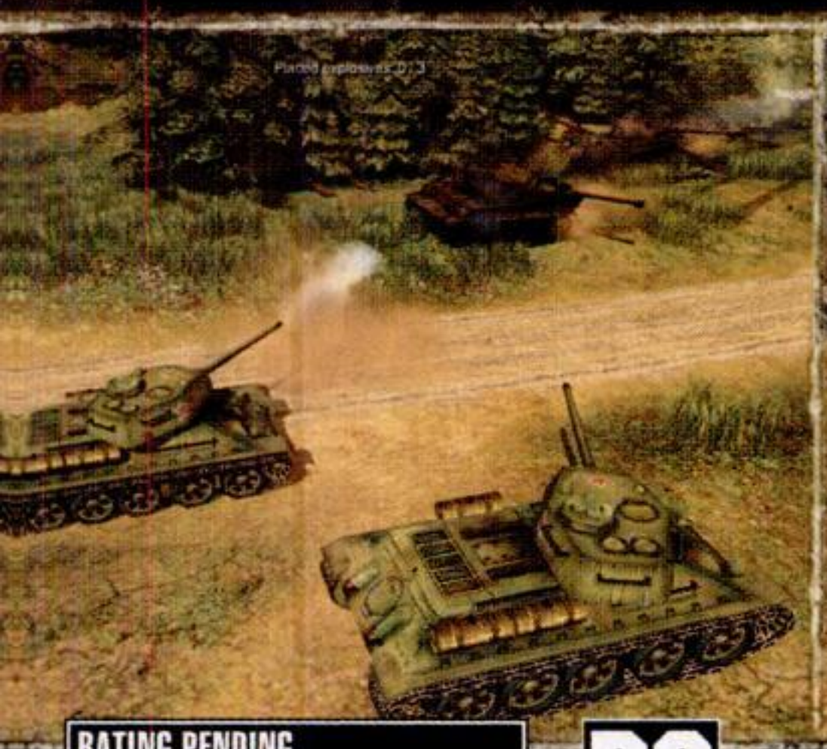

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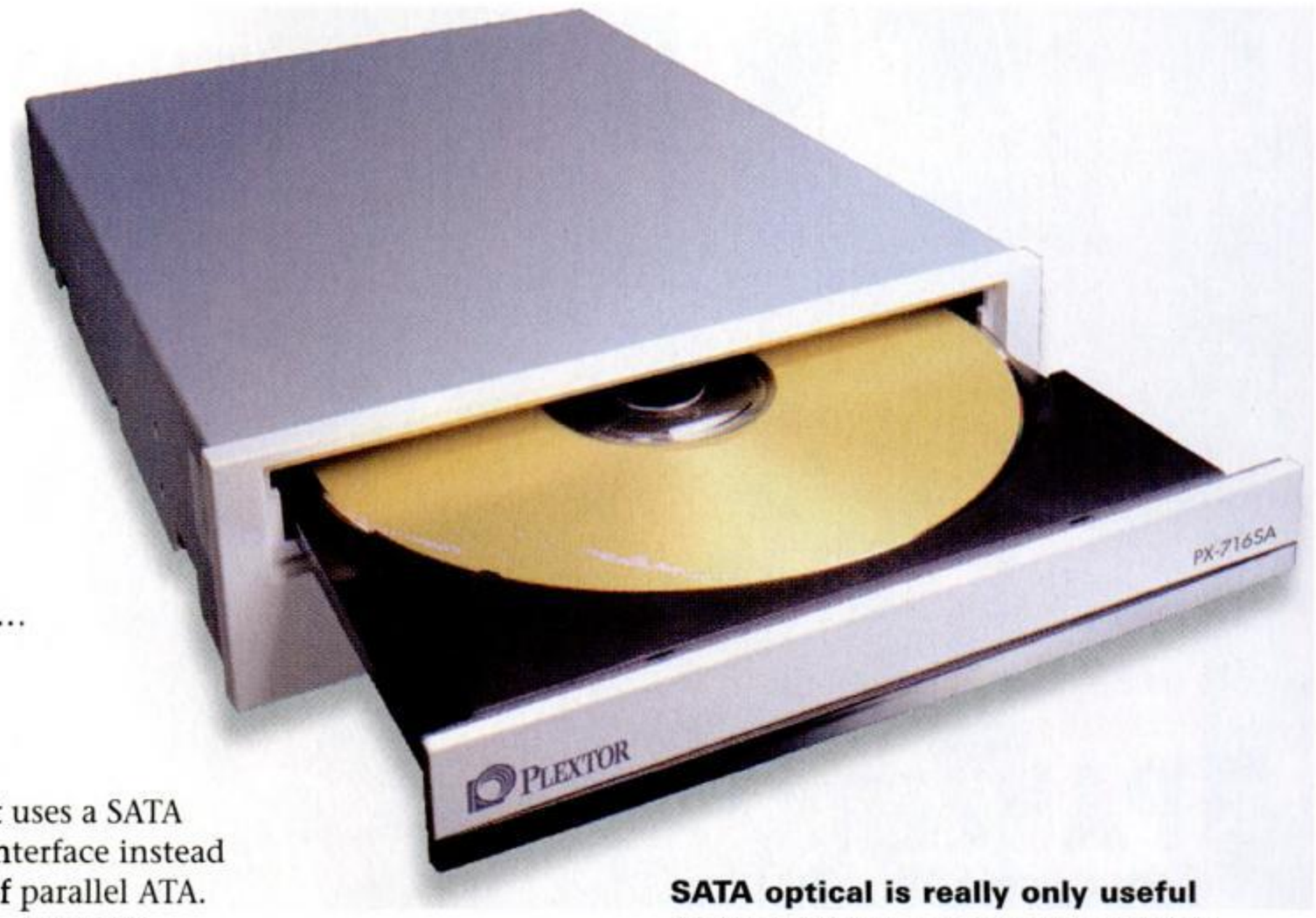
In the Lab

A behind-the-scenes look at Maximum PC testing

What's the Matta with SATA (Optical)?

SATA optical should be hot, but it's not.... Here's the inside scoop



SATA optical is really only useful if you have a motherboard chipset with native SATA.

It's been more than two years since the faster, thinner-cable Serial ATA (SATA) spec was introduced, yet just a handful of SATA optical drive models have shipped. Are there issues with the technology that might explain this dearth of product? That's what we wanted to find out.

We grabbed Plextor's PX-716SA drive and installed it on a number of motherboards we had in the Lab. The PX-716SA is a multi-format DVD burner identical to the PX-716A, except that it uses a SATA interface instead of parallel ATA.

Our Lab tests indicate that the determining factor in whether a SATA optical drive will work is the mobo's chipset and BIOS, not the onboard SATA controller. We found that Plextor's SATA drive worked just as seamlessly as any other optical drive with the majority of Intel and nVidia chipsets that offer native SATA support (ICH5, ICH6, ICH7, and nForce4). But don't just assume that you're good if your mobo sports integrated native SATA (aka boards that don't require F6 drivers). For instance, a visit to Plextor's motherboard support list (**www.plextor.com/english/support/media_712SA.htm**) shows that some boards need BIOS tweaking to get the drive to work.

A SATA optical drive lets you wave goodbye to the last ribbon cable in your system: buh-bye!

Our experience with the third-party SATA chips soldered onto most motherboards these days was far less favorable. Using Windows XP Pro with SP2 slipstreamed, we were unable to install the OS on boards that use Promise 378 controllers and Silicon Image 3112 and 3114 controllers. It didn't matter if the board was an ancient nForce2 Ultra board or 875P mobo—all the discrete RAID controllers gave us headaches. Once the OS was installed, we could access the drives, but if you can't install Windows with it, you're screwed. The upshot is, if a SATA optical drive is in your roadmap, make sure your motherboard features native SATA support in the south bridge, and make sure you reserve a south bridge port for the optical drive.

With only Plextor and MSI selling SATA optical drives, there isn't much momentum behind the category. What's the holdup? We talked to the Serial ATA International Organization about the delay. The organization said there are three reasons: Optical drives really don't need the 150MB/s of bandwidth SATA offers; PCs don't have enough SATA ports to support multiple SATA hard drives and SATA optical drives; and optical drive makers tend to be even more conservative than hard drive makers. Still, this fall we expect to see more SATA optical drives on sale. When the time to switch comes for you, just make sure your motherboard supports optical SATA drives before you plunk down the cash.

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DC-300 CD Carousel Plus

TESTED & GEEK DISAPPROVED

Having filled our CaseLogic binders and then resorted to tossing all remaining CDs into a desk drawer, the CD Carousel sure seemed like an ideal storage solution. It holds 150 discs in a motorized caddy, and spits them out on demand. Using the keypad or bundled software, you simply select a storage slot and then wait for the disc to pop out. Even though the DC-300 works as advertised, it's uglier than roadkill, and it's a major chore to catalog every CD individually using our PC's optical drive, and then place it in the appropriate slot. Once someone comes up with an affordable motorized disc caddy that includes a built-in CD/DVD-ROM reader, we'll worship them as gods. Until then, it's back to CaseLogic.

$130, www.cyberguys.com

Benchmark Update: Premiere

We ran into a small bug with our *Premiere Pro* benchmark this month. Our benchmark runs fine on machines with two processors, or one processor with Hyper-Threading, but throw a Pentium Extreme Edition dual-core CPU at it with the HT turned on, and our benchmark freaks out. The cause, according to Adobe, is a bizarre incompatibility with a software shim in Service Pack 2, Hyper-Threading, and *Premiere Pro 1.0* (and sometimes *Premiere Pro 1.5*). To correct the problem in our benchmark, we have to install two patches: one patches the MainConcept encoder in *Premiere*, while the second patch fixes the shim problem in SP2. Neither patch should impact benchmark performance.

Best of the Best

As of July 2005

For the most part, our list of the best hardware components remains unchanged. We do have some big drive news, though: Hitachi's 7K500 bumped Maxtor's DiamondMax 10 drive from its 7,200rpm perch. The 500 gigger impressed us enough that we're also cutting Western Digital's 10,000rpm Raptor WD740GD, which has been the lone 10K offering for so long it's become boring. We'll consider picking up the category again if anyone ships a new drive. We're also retiring the AGP category, with the GeForce 6800 Ultra as the final king.

PCI Express videocard:
ATI Radeon X850 XT Platinum Edition

Budget videocard:
nVidia GeForce 6600 GT

Soundcard:
Creative Labs Sound Blaster Audigy 2 ZS Platinum

7,200rpm SATA:
Hitachi Deskstar 7K500

External backup drive:
Western Digital Dual-Option Media Center 250GB

Portable USB drive:
Seagate Portable External Hard Drive 100GB

DVD burner:
Plextor PX-716A

Widescreen LCD monitor:
Hewlett-Packard f2304

Desktop LCD monitor:
Dell 2001FP

Desktop CRT monitor:
NEC FE2111 SB

Socket 939 A64 mobo:
Asus A8N-SLI Deluxe

LGA775 mobo:
Hold

Portable MP3 player:
Apple iPod 40GB

Photo printer:
Canon i9900

PDA:
Dell Axim X50v

5.1 speakers:
Logitech Z-5500 Digital

2.1 speakers:
Klipsch GMX A2.1

Mid-tower case:
Chenbro Gaming Bomb II

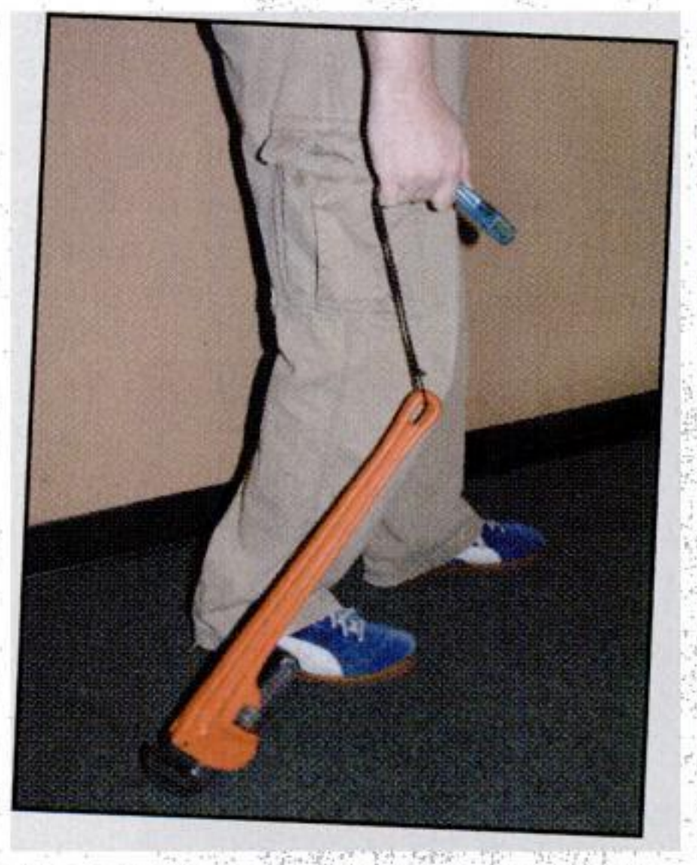
Full-size case:
ThermalTake Armor VA8000BWS

Our current gaming favorites: *Tribes: Vengeance, Silent Hunter 3, Empire Earth 2, Obscure, Psychonauts*

Never Forget Your USB Key Ever Again!

Ever moved all the files you need to your trusty USB key, then got up, went to work or home, and realized you left the key plugged into your PC? So have we! But no more!

This ankle leash USB retention device is bright orange for added visibility, and made of loose cable coils to prevent loss of circulation to your leg.



Like the ankle leash, this pipe-wrench USB key dongle's day-glo hue serves as a reminder of its presence. That 30 extra pounds of steel in your pocket is also hard to ignore!

Though the surgery was a bit painful, having 2GB of memory on our fingertip totally rules. The best part: We still have four empty fingers. That's 8GB of upgrade potential on this one hand alone!

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Dell XPS

1TB of storage, dual cores, and overclocking... on a *Dell*?

When you're the No. 1 PC manufacturer on planet Earth, it's hard to make machines that will appeal to Auntie Wendy while fronting an attitude that appeals to gamers and the power user elite.

That's the predicament Dell faced head-on when it introduced its first power-user XPS machine almost two years ago. That XPS was a well-rounded gaming rig, but it couldn't out-muscle other hardcore machines of the day.

With the new fifth-generation XPS, Dell hits with both bores. The Gen-5 XPS features Intel's new dual-core Pentium Extreme Edition 840—essentially a pair of 3.2GHz Pentium 4 Prescott cores. Factor in the Hyper-Threaded nature of these cores and you're looking at quadruple the processing potential of a traditional CPU. What's more, you can overclock the XPS from 3.2GHz to 3.6GHz. We ran our test XPS at 3.6GHz for 72 hours under full load without any instability.

Dell paired the Pentium Extreme Edition with a custom Intel 955X chipset motherboard and 1GB of DDR2/667 RAM. An ATI Radeon X850 XT Platinum Edition sits in the motherboard's x16 PCI-E slot just above a suspiciously empty x16 physical PCI-E slot. Because the 955X chipset doesn't support nVidia's SLI, it'll be interesting to see what eventually fills that second slot. Dell even includes a second PCI-E power plug. Hmmm.

The true surprise inside the XPS, however, are the dual 500GB Hitachi Deskstar SATA 3G drives. A full review of the Kick Ass-award-winning Deskstar is on page 69, but we can summarize here: These drives are freaking fast! A 1TB, two-drive RAID 0 array is pretty exciting. Because the 955X chipset supports Matrix RAID, we could even configure the drives to give us some redundancy in addition to striping.

The icing on this tasty cake comes in the form of Dell's new 24-inch LCD flat panel. At almost half the price of other monitors of this size, we were concerned that the cut-rate price might mean cut-rate quality; but we were impressed by what we saw of the 2405FPW. A full review of the display will appear in an upcoming issue.

Sadly, few of today's benchmarks are designed to reveal the multitasking and multi-threading performance benefits that dual-core rigs offer. We know, for example, that the XPS will spank the fastest Athlon 64 or Pentium 4 in *DVD Shrink*, or any other multi-threaded app, but such prowess is unapparent in *Photoshop CS*. We did see performance dividends in *Premiere Pro*, where the XPS was easily 25 percent faster than our zero-point system. *SYSmark2004* is also pro dual-core, but we couldn't get the benchmark to install on the XPS. *SYSmark* can be especially finicky with OEM installs of Windows. Dell reports a *SYSmark* score of 240 with an identical machine, which jibes with our expectations of a dual-core PC.

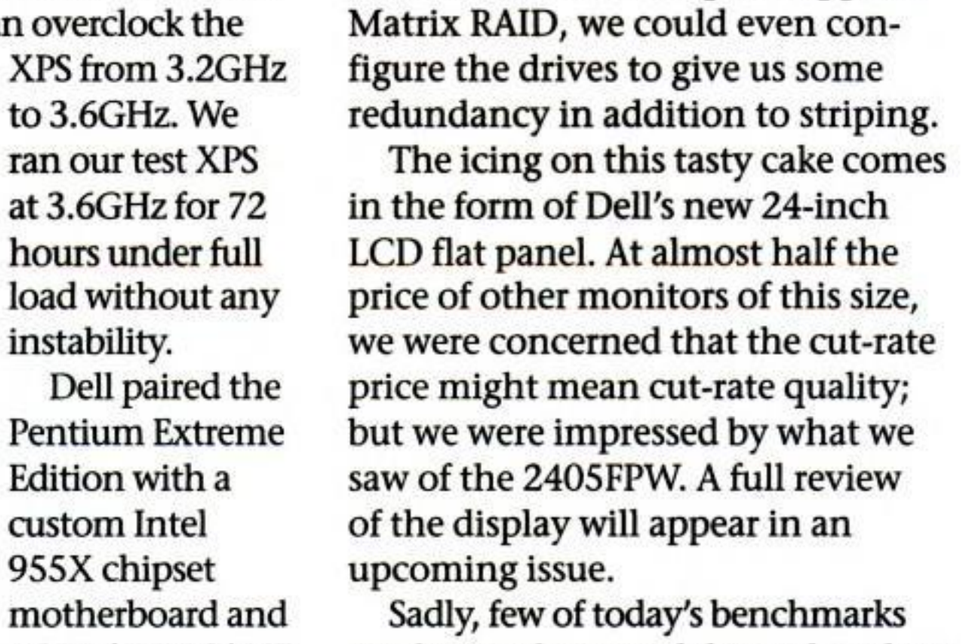
Multiple cores can't help with games, unfortunately. While perfectly able to play any current game at high resolutions with antialiasing options enabled, the single X850 XT simply can't hang with the 6800 Ultra setups, and the dual-3.2GHz cores can't keep up with a single faster CPU. Dell doesn't actually pitch the XPS as a pure gaming box, though; it's equipped with Media Center Edition 2005 and a dual-tuner TV card. But these bonus features can't make us overlook the frame rate gap between this XPS and SLI-equipped Athlon 64 rigs. While we are impressed with the direction the XPS is headed, we'd like to see better gaming and application performance from the next rev of the XPS.

—GORDON MAH UNG

Look out for flying pigs: This Dell can overclock!

UNDER THE HOOD

THE BRAINS	
CPU	Intel 3.20GHz Pentium Extreme Edition 840 (two 3.2GHz cores)
Mobo	Custom Dell
RAM	1GB DDR2/667 (two 512MB sticks)
I/O ports	7 USB, 3 FireWire A, 3 analog out, mic-in, line-in, digital SPDIF out, front headphone, front line in
LAN	Gigabit Ethernet
DISPLAY	
Videocard	ATI Radeon X850 XT Platinum Edition
Monitor	Dell 2405FPW
STORAGE	
Hard drives	Two 500GB SATA 3G Hitachi 7K500 Deskstar in RAID 0
Optical	Philips DVD8631 (2.4x DVD+R double layer, 16x DVD+R, 8x DVD-R, 4x DVD+/-RW, 40x CD-R), 16x Philips DVD-ROM
AUDIO	
Soundcard	Sound Blaster Audigy 2 ZS
Speakers	Logitech Z5500
FINE DETAILS	
Case	Custom clamshell case
Fans/extras	Floppy, front mounted POST lights, lighted bezel, media reader, dual TV tuner
BUNDLE	
Windows XP Media Center	
BOOT: 52 sec.	**DOWN: 16 sec.**



Our zero-point reference system uses a 2.6GHz Athlon 64 FX-55, 2GB of DDR400 Crucial Ballistix RAM, two nVidia GeForce 6800 Ultra cards in SLI, a Maxtor 250GB DiamondMax10, a Sound Blaster Audigy 2 ZS, a PC Power and Cooling TurboCool 510 Deluxe Express, and Windows XP Pro with SP2.

MAXIMUM PC VERDICT 8

+ BERETTA

Dual-core processor, quiet, and comes with a 24-inch flat panel.

− BARETTA

Needs SLI to be competitive with Athlon 64 machines.

$5,000 ($3,800 w/o a display), www.dell.com

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The Intel® Pentium® 4 Processor with HT Technology and the Qmedia PRO X6000 Series give you power to have more fun with your PC. Edit your digital photos while checking a news video. Browse the Web while distributing music to the stereo with your digital media adapter.

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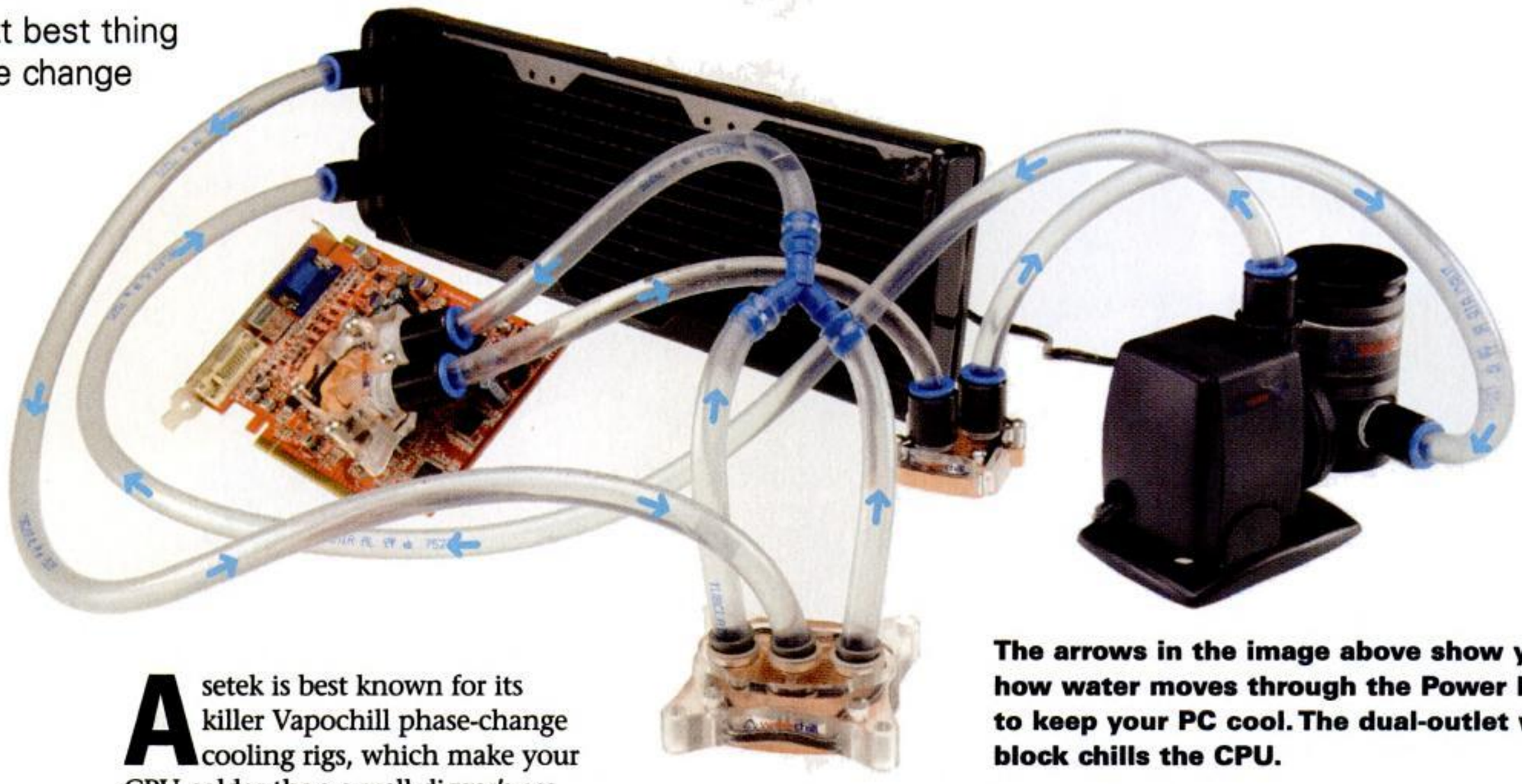
Asetek WaterChill Power Kit

The next best thing to phase change



The arrows in the image above show you how water moves through the Power Kit to keep your PC cool. The dual-outlet water block chills the CPU.

Asetek is best known for its killer Vapochill phase-change cooling rigs, which make your CPU colder than a well-digger's ass. Phase change can be messy and dangerous, however, so Asetek also has a line of less-exotic water-cooling solutions, dubbed WaterChill.

WaterChill gear is available either in preconfigured kits or a la carte, so you can custom-configure a setup to suit your rig. For this review we requested the Power Kit, Asetek's top-of-the-line model. It includes a universal water block for the CPU—the block fits every Athlon XP, Athlon 64, and Pentium 4—a chipset block, and a VGA cooler. Asetek also includes a pump with an integrated reservoir, several feet of half-inch tubing, and anti-algae fluid to mix with distilled water (not included). The kit's massive 15x5-inch radiator uses three 120mm fans stacked end-to-end to cool the water. Because the radiator is a water-cooling system's sole means of transferring heat out of the case, its size usually determines a kit's performance, and true enough, we achieved amazing results with the Power Kit.

Once fired up and pumping away, the Power Kit delivered the lowest idle temp we've ever seen in a water-cooled system—a chilly 34 degrees Celsius, 10 degrees lower than the stock Intel heatsink/fan was capable of. With a 100 percent load on the CPU, the core temperature rose only one degree above the CPU's idle temperature using the stock air-cooling setup. That's mighty impressive.

The Power Kit *really* blew us away in the overclocking department—it allowed us to ratchet our 3.6GHz P4 Prescott all the way to 4.25GHz! At that speed, the machine was rock-solid, running benchmarks and other tests without problems.

We did encounter some problems installing the kit, however. Mounting the VGA cooling block is downright dangerous. The flip-chip design of modern GPUs leaves the core exposed, and it can be easily crushed by even a tiny bit of excess pressure. We killed not one, but two GeForce 6600 GT videocards by overtightening this VGA water block. While this is partially our fault, we've had much better luck with aftermarket GPU coolers that use a straightening bar mounted on the underside of the card. These bars help equalize the pressure on either side of the core, and when used with lock washers, will prevent you from crushing your core.

Another issue we had with the Power Kit was finding a spot for the gargantuan radiator. We assembled the kit in a Silverstone Nimiz full-tower case, thinking the radiator would fit along the bottom of the case below the PCI cards, but we were wrong. It didn't fit, and we couldn't find anywhere inside the case to mount it, so we just leaned it up against a wall outside of the case. Either the dual- or single-120mm radiator assembly would have easily fit inside a full-tower.

In the final tally, the Power Kit's CPU water block and radiator delivered second-to-none performance. Its push-on fittings are easy to use, and the excellent instructions held our hands through the entire process. Without the hardware-destroying VGA cooler, Asetek's kit would easily receive a Kick Ass award. Even with the water-block trouble, the WaterChill Power Kit rates high.

—JOSH NOREM

Dare to Compare

	STOCK INTEL HEATSINK/FAN	ASETEK WATERCHILL
CPU temp at idle	44° C	34° C
CPU temp at 100% load	63° C	45° C
Overclock of 3.6GHz CPU	4.0GHz	4.25GHz

MAXIMUM PC VERDICT 9

+ CHILLED WATER

Excellent CPU cooling, relatively quiet, and easy installation.

– BROKEN WATER

Pricey, and VGA water block is tricky to install.

$350, www.asetek.com

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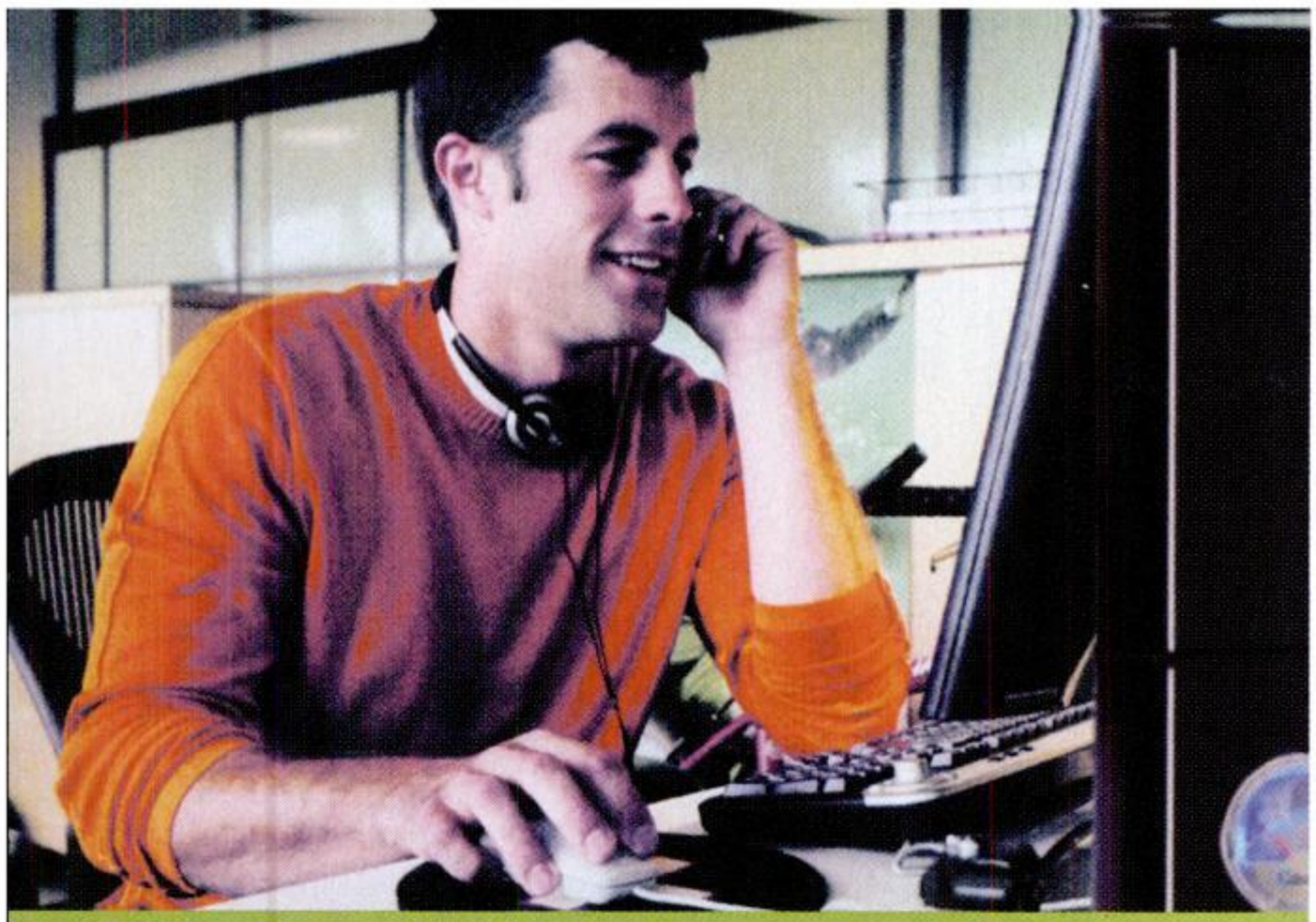

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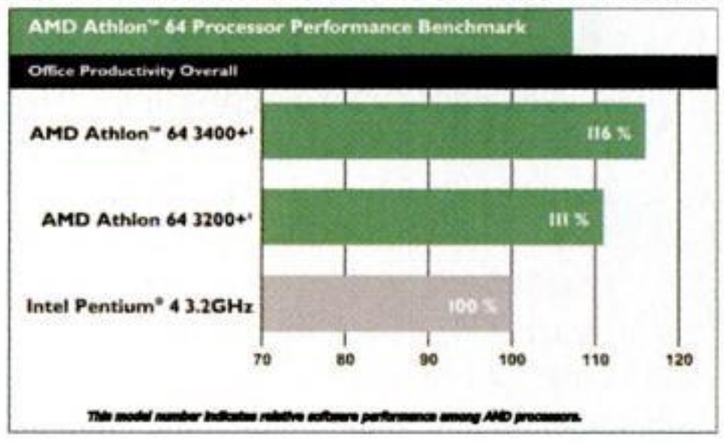

ZT recommends Microsoft® Windows® XP

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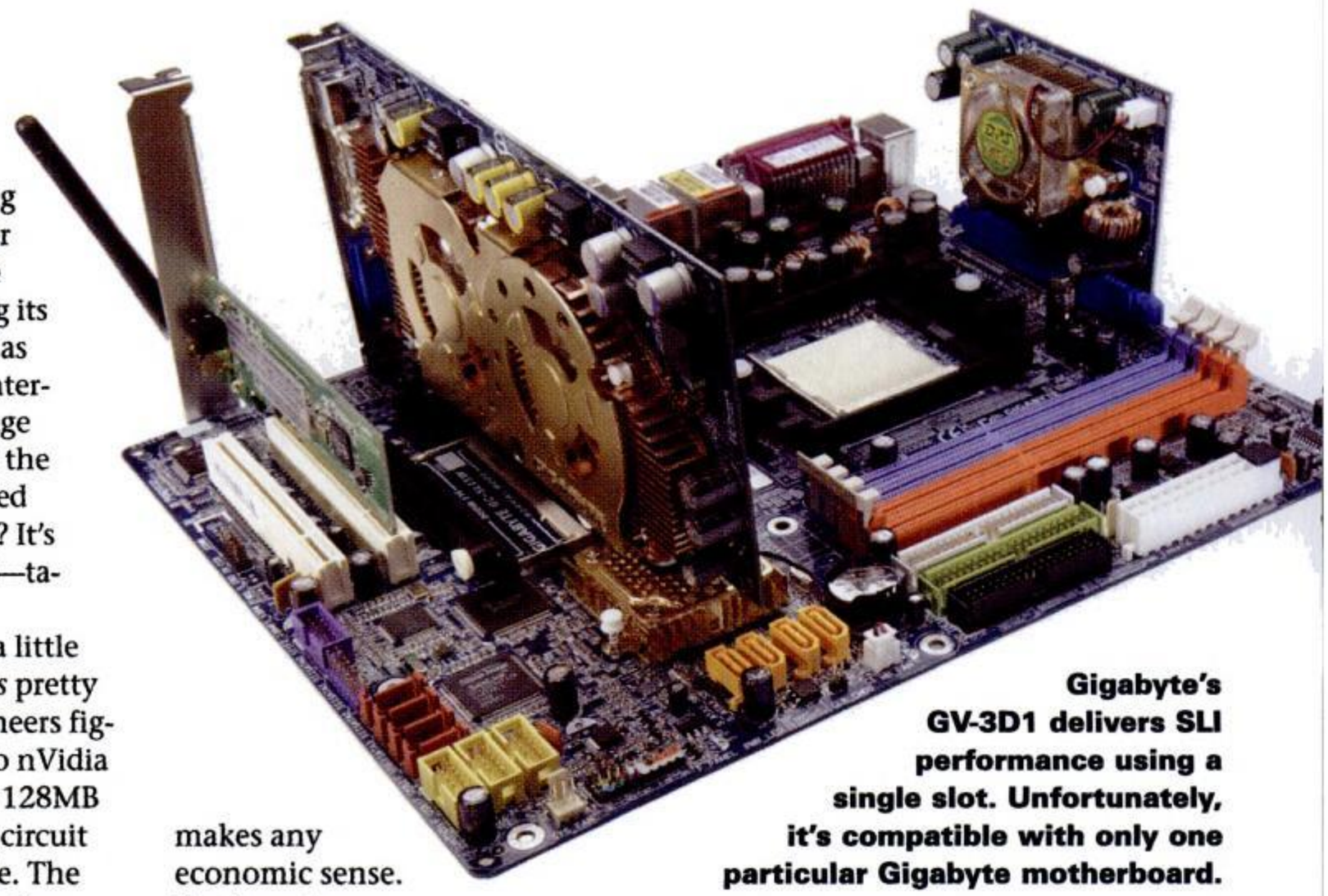
Gigabyte GV-3D1

Innovative design, but with significant drawbacks



Gigabyte's GV-3D1 delivers SLI performance using a single slot. Unfortunately, it's compatible with only one particular Gigabyte motherboard.

Disingenuous marketing claims frost our nether regions, and Gigabyte makes a doozy by describing its GV-3D1 single-slot SLI card as having a 256-bit memory interface. Gee, how'd they manage that when the dual GPUs at the heart of this card are outfitted with 128-bit memory buses? It's easy: Add 128 and 128, and—ta-dah!—you get 256!

OK, we'll cut Gigabyte a little slack because the GV-3D1 *is* pretty ingenious. Gigabyte's engineers figured out how to mount two nVidia GeForce 6600 GTs and two 128MB frame buffers onto a single circuit board that runs in SLI mode. The problem is that the only motherboard with which the GV-3D1 is compatible is Gigabyte's nForce4 GA-K8NXP-SLI. Well, there are other problems, but that's the big one.

Although Gigabyte is making noises about offering the GV-3D1 as a stand-alone product, the only way you could purchase it at press time was as part of a $530 bundle with the aforementioned motherboard. Because the card must specifically be supported in the mobo's BIOS, it will likely remain compatible only with Gigabyte mobos. Unless you're considering a motherboard upgrade *and* a simultaneous videocard upgrade, this product will hold no real interest for you.

Before we examine this card's performance, let's see if the bundle makes any economic sense. Purchased separately, Gigabyte's GA-K8NXP-SLI motherboard is street-priced at about $165. Add a pair of Gigabyte's PCI Express GeForce 6600 GT boards at $170 each, and you'll have spent $505. With the street price of the bundle hovering around $495, you'll save yourself a whopping $10. Big deal.

You save $10 with the bundle, but you lose a lot of flexibility. If you purchase two stand-alone GeForce 6600 GT boards, you'll get two DVI and two VGA ports, which lets you drive up to four displays. You can also use those two stand-alone boards in any PCI Express mobo. The GV-3D1 is limited to this mobo.

If the GV-3D1 delivered stellar performance, we could easily overlook these drawbacks. But it doesn't, thanks to its too-small 128MB frame buffer and puny eight-pipeline design. (Remember, on SLI configs, both cards store the same data in onboard RAM, so two 128MB cards in SLI do not have 256MB of effective memory.) The board couldn't deliver in our *Doom 3* test; at High Quality, 1600x1200 resolution, with 4x antialiasing enabled, the board cranked out just 34.2fps. The same goes for *Far Cry*. With all that game's features maxed out, the board mustered a mere 39.3fps.

Halo performance at 1600x1200 was an impressive 77.9fps, but we attribute that more to the game's use of low-res textures than the GV-3D1's prowess. Likewise for the board's *3DMark03* and *3DMark05* scores; sure, they're higher than those for a single GeForce 6800 Ultra, but only at lower resolutions (1024x768). The scores in *3DMark03* Games 2 and 4 at 1600x1200 were a much humbler 23.0- and 26.2fps, respectively.

We'll review the motherboard portion of this product bundle at a later date. As for the GV-3D1, it's an interesting engineering exercise, but there's just no compelling reason for us to recommend it.

—MICHAEL BROWN

DARE TO COMPARE	Gigabyte GV-3D1	GeForce 6600 GT	ATI x800 XL
3DMark05	**6,299**	3,953	5,530
3DMark03	**14,077**	9,164	10,924
3DMark03 Game 2 (fps)	**23.0**	14.3	**23.0**
3DMark03 Game 4 (fps)	26.2	18.2	**31.8**
Halo 1.06 (fps)	**77.9**	48.1	55.1
Doom 3 Demo 1 (fps)	**34.2**	21.3	31.6
Far Cry 1.31 (fps)	39.3	29.8	**59.8**

Best scores are bolded. Benchmarks were run on Gigabyte's GA-8AGNXP-SLI motherboard with an Athlon FX-55 and 2GB of DDR SDRAM. Halo 1.06 tested at 1600x1200 with sound disabled. Doom 3 tested at High Quality, 1600x1200, 4x AA. Far Cry 1.31, and 3DMark 2003 Game 2 and Game 4 are tested at 1600x1200, 4x AA, and 8x aniso. 3DMark 2003 and 3DMark 2005 are run using default settings.

MAXIMUM PC VERDICT 5

+ POCKET ROCKET

SLI performance while consuming a single slot.

– POCKET LINT

Petite frame buffers and narrow pixel pipelines limit you to low-res gaming; available only with bundled mobo.

$530, www.giga-byte.com

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Hitachi 7K500 Deskstar

This hard drive is some kind of monster

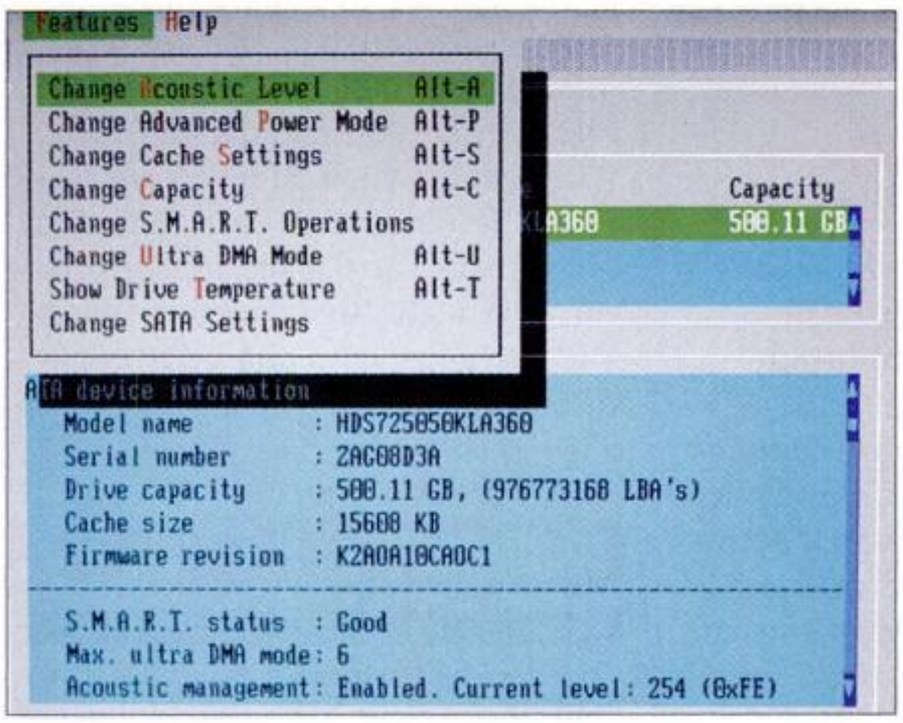
The 7K500 packs every next-gen feature possible into a package with a record-breaking 500GB capacity. What's not to love?

Hitachi pulled out all the stops for its latest flagship disk drive, the 7K500. Not only does it sport 100GB more space than its nearest rival—the Seagate 7200.8—it includes a 16MB buffer, support for some SATA II extensions, and is the first SATA 3G drive on the market.

Though Seagate's 400GB 7200.8 drive packs 133GB onto a single platter, Hitachi is holding steady at 100GB per platter these days. The 7K500's five-platter design is unheard of these days, but it allows Hitachi to hit record-breaking capacities. The SATA II features that the drive sports include hot-swappability (when paired with the appropriate mobo); staggered spin-up, to reduce the power draw when booting multi-drive systems; native command queuing; and a 300MB/s SATA interface that's twice as fast as older SATA drives. On paper this drive looks like the new 7,200rpm king, but the real questions is, how does it stack up in our Lab tests?

During testing, the 7K500 rocked like a hurricane. Its score of 29.3 in our application index—a script of six real-world applications—trounced the mighty Raptor's score of 26.4 and the Maxtor's DiamondMax 10's grade of 26.6. Impressive stuff, for sure, especially considering that the 7K500 has the same buffer size and areal density as the Maxtor drive. Of course, it sports two additional read/write heads to accommodate its five-platter design (Maxtor's drive uses three platters). The rest of the 7K500's scores were exactly in line with what we'd expect from a drive with a 7,200rpm spindle speed and 100GB platters. It was a tad slower in overall read speeds than Seagate's 133GB-per-platter 7200.8 drive, but its average read speed of approximately 50MB/s is nothing to sneeze at.

One extremely cool and unique feature of the 7K500 is the included configuration utility—the *Hitachi Feature Tool*. Other manufacturers have shipped drive-tweaking utilities in the past, but then quietly dropped support for them to reduce tech support calls. The *Feature Tool* is a bootable diskette that lets you tweak key drive settings to generate less noise, transfer data faster, or strike a compromise between the two. When we adjusted the acoustic-level slider from "maximum performance" to "low noise," for instance, seek times dipped from 13ms to 17ms, but the drive also became a tad quieter. You can also switch between maximum and minimum power-consumption modes, adjust the interface to run at 150MB/s or 300MB/s, and tweak a host of largely inconsequential settings.


Features Help
Change Acoustic Level Alt-A
Change Advanced Power Mode Alt-P
Change Cache Settings Alt-S
Change Capacity Alt-C
Change S.M.A.R.T. Operations
Change Ultra DMA Mode Alt-U
Show Drive Temperature Alt-T
Change SATA Settings
Capacity
KLA360 500.11 GB
ATA device information
Model name : HDS725050KLA360
Serial number : 2AC08D3A
Drive capacity : 500.11 GB, (976773168 LBA's)
Cache size : 15608 KB
Firmware revision : K2A0A10CA0C1
S.M.A.R.T. status : Good
Max. ultra DMA mode: 6
Acoustic management: Enabled. Current level: 254 (0xFE)

The bundled Feature Tool lets you tweak the drive's acoustics and power consumption for either maximum performance, silent operation, or the perfect balance.

We're not aware of a similar utility currently shipping with any of the other "big four" drive manufacturers and we appreciate Hitachi including this utility in the box.

Dare to Compare	7K500	7200.8	DiMax 10
HD TACH 3.0			
Sequential read (MB/s)	51.3	**55.38**	**52.2**
Burst read (MB/s)	**133**	116	118
Random Access (ms)	13.9	**13.2**	15.7
H2BENCHW			
Random Access (ms)	13.8	**13.1**	13.5
Burst rate (MB/s)	**128**	117	123
Sustained read avg. (MB/s)	48	**55.2**	51.9
Application index *	**29.3**	24.4	26.6
Operating temp (C)	46	**45**	**45**
Warranty (years)	3	5	3

*Best scores are bolded. * Application index is the geometric mean of a drive's performance in six real-world applications.*

As fond as we are of Maxtor's 300GB DiamondMax 10, its reign as our favorite 7,200rpm drive has come to a close. This new Hitachi drive spanks the Maxy in our real-world benchmark, and is 200GB larger to boot. The WD Raptor is also extinct, as far as we're concerned, given its comparatively puny capacity and middling performance. Hitachi definitely brought its A-game to the Lab this time, and it'll be interesting to see how WD, Maxtor, and Seagate respond.

—JOSH NOREM

MAXIMUM PC VERDICT 9

GIGIBITS

Humungous capacity, quiet and very fast, Feature Tool is neat.

GIBLETS

We'll have to get back to you on this one.

$500, www.hgst.com

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MP3 Player Madness!

Bigger drives! Smaller players! Mondo features!

Hard drive-based MP3 players seem to be multiplying, like Tribbles, at an alarming rate. But instead of just cooing softly and eating your snacks, they're evolving new features while slimming their waistlines. *Maximum PC* sifts through a new batch of premium players to find out which ones we'd pocket, and which ones we'd transport to a neighboring Klingon vessel.

—LOGAN DECKER

TINY TOTS

iRiver H10 5GB

Aimed squarely at a tiny gap in the iPod lineup, iRiver fires the wee, sophisticated 5GB H10 (shown here in "Lounge Grey"—hip!).

Only slightly larger than the iPod Mini, the H10 includes a 1.5-inch color screen with photo display capability, an FM tuner, line-in recording, custom five-band EQ, and text document display, to boot. Music transfer is handled through the bundled *Windows Media Player 10*, which is nowhere near as simple and graceful as *iTunes*, but works reasonably well and supports online music services that use Windows Media DRM (such as Napster-To-Go). The bundled Sennheiser earbuds are better than what usually ships with players, but they're not good enough to dissuade us from buying a pair of higher-quality buds. The default EQ sounded weak in the low-end, but avoid the sound-mangling EQ presets and head straight to the custom EQ.

The H10 is a natural competitor to the iPod Mini, but it suffers when the two are directly compared. The touch strip seems like a good control solution, but it's infinitely less usable than the iPod's scroll wheel. When you start a track with the volume set too loud, you'll be stroking the strip hysterically trying to save your hearing instead of just circling your fingertip around the wheel. The color screen is smaller and less sharp than even the piss-poor screen on the iPod Photo, line-in recording requires the (optional) H10 dock, and as a text file viewer, well, you'd have to be really desperate to read anything on this screen. We'd expect a feature-mongering player like the H10 to support OGG files, but it doesn't. And unlike many players we've reviewed that exceed their stated battery life, the iRiver H10 fell far short of the 12 hours listed in the specs, gasping its last breath at just over 9 hours.

iRiver is a daring company, but the H10 is far from its best effort, and can't compete with the iPod Mini when it comes to the simple task of playing your music the right way out of the box.

iRIVER H10 5GB
MAXIMUM PC VERDICT 7

+ BABBLING BROOKS
Color screen, five-band custom EQ.

– BABBLING CROOKS
Obnoxious hardware interface, weak bass.

$250, www.iriveramerica.com

We've heard some web nasties grousing about the look of the Dell Pocket DJ, but we don't get it—we think it looks pretty damn slick.

Dell Pocket DJ 5GB

The Pocket DJ from Dell is about the same size as iRiver's H10, and places the most important controls—play, forward, and reverse—in the most prominent positions on the face of the device. The brushed-chrome bezel doesn't scratch easily, and we found the ribbed thumb-wheel easier to work with than the H10's touchy touch-strip. So far, so good.

Out-of-the-box sound was fine, although the bass seemed puny compared with the iPod Mini. You can season the sound to taste with a five-band custom EQ, but you'll get best results by buying a better set of earbuds and using one of the bass-boosting EQ presets—the results will be almost indistinguishable from the iPod Mini.

The Dell Pocket DJ offended us with a couple of easily remedied faults. Like the original Dell Jukebox, the ribbed scroll wheel protrudes too far from the face of the player, and is easy to unintentionally press in your pocket. The problem is worse this time; most of the buttons are easily activated in a back pocket, leading to unexpected track restarts and hiccups. And although the Pocket DJ can be loaded through *Windows Media Player 10* (a much better option, than the bundled *MusicMatch 10*), you can't transfer music or data files without installing a driver first. That's ridiculous. Battery life was slightly above average for a mini hard drive-based player—we got a little more than nine hours at 75 percent volume.

The Pocket DJ is a stripped-down, inexpensive, and sturdy MP3 player, but for a mere 50 bucks more you can get the 6GB iPod Mini, which offers more features, better sound, driverless data file transfer, and a smaller formfactor. If you can live without WMA-DRM support, the choice is not a difficult one.

DELL POCKET DJ 5GB
MAXIMUM PC VERDICT 6

+ DJs
Very inexpensive and sturdy.

– VJs
Requires drivers for music and data, poor button design.

$200, www.dell.com

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HEAVYWEIGHT DIVISION

iPod Photo 30GB

It wasn't the first MP3 player, but Apple's iPod was unquestionably the best—easy to use, beautiful to look at, and lovely to listen to. Over the years, it's only gotten better, with further refinements to the interface, virtually seamless integration with the fabulicious *iTunes* media player, and tasty third-party extensions that allow you to take your e-mail, contacts, and Podcasts on the road. Now it's got a color screen and photo-viewing support, as well. Who could complain?

Well, we can.

Our attitude toward the iPod as an MP3 player hasn't changed: It's still, by far, the best that rupees can buy, although it doesn't support OGG or WMA files natively and lacks a custom EQ facility. As a photo viewer though, it's unimpressive. The tiny, not-particularly-sharp two-inch screen is hardly a thrilling viewing experience (nor is it meant to be, we suspect; an optional composite video cable will let you view photos and listen to music simultaneously on your television set for a much more dramatic presentation). Attachments for certain camera makes and models are also available, and allow you to download pictures directly to the iPod's hard drive, but your camera's LCD is likely to have just as good a screen as the iPod, so this optional feature is only a storage convenience.

But we digress. The iPod is first and foremost an MP3 player, and it shows its maturity by passing on esoteric features in favor of refined finishing touches, such as an impressive battery life—a whopping 16 hours in audio-only mode at 75 percent volume. And fast track searching with the scroll wheel is available by simply pressing the center button during playback. It's definitely a little thing, but the iPod stops playback when we accidentally yank our headphones—plug them back in, press play, and you'll resume from where you left off.

Despite the shoulder-shrug we give to the photo viewing aspect and the proprietary connector, the iPod remains simple, transparently functional every step of the way, and a pleasure to listen to.

The verdict would be the same even without the fairly anemic photo-viewing features; the iPod's hardware interface remains unparalleled.

iPOD PHOTO 30GB
MAXIMUM PC VERDICT 9

MODS
Awesome sound, superior hardware interface.

FRAUDS
Proprietary cable, no custom EQ.

$350, www.ipod.com

Dell DJ 30GB

We once considered Dell's Digital Jukebox to be a serious contender to the iPod. Now called simply the DJ, we feel betrayed by Dell's half-hearted revision to its once-promising MP3 player. This is a device that's taken to drink and declined in the absence of a proper intervention.

We can overlook the DJ's weight and bulkiness—it's much less expensive than the iPod—but the Dell DJ doesn't seem interested in matching the iPod's capabilities, much less capitalizing on any of its shortcomings. It uses a proprietary connector for data transfer—*yeesh*. You can't hear audio as you fast-forward through tracks—*darn*. Music is transferred at almost half the speed of the iPod—*argh*. The sound is vibrant at the high end, but lacks the gut-punch of the iPod, even with custom EQ applied—*yikes!* And dig this: You can't use the Dell DJ to transfer data files without installing a driver on the PC first.

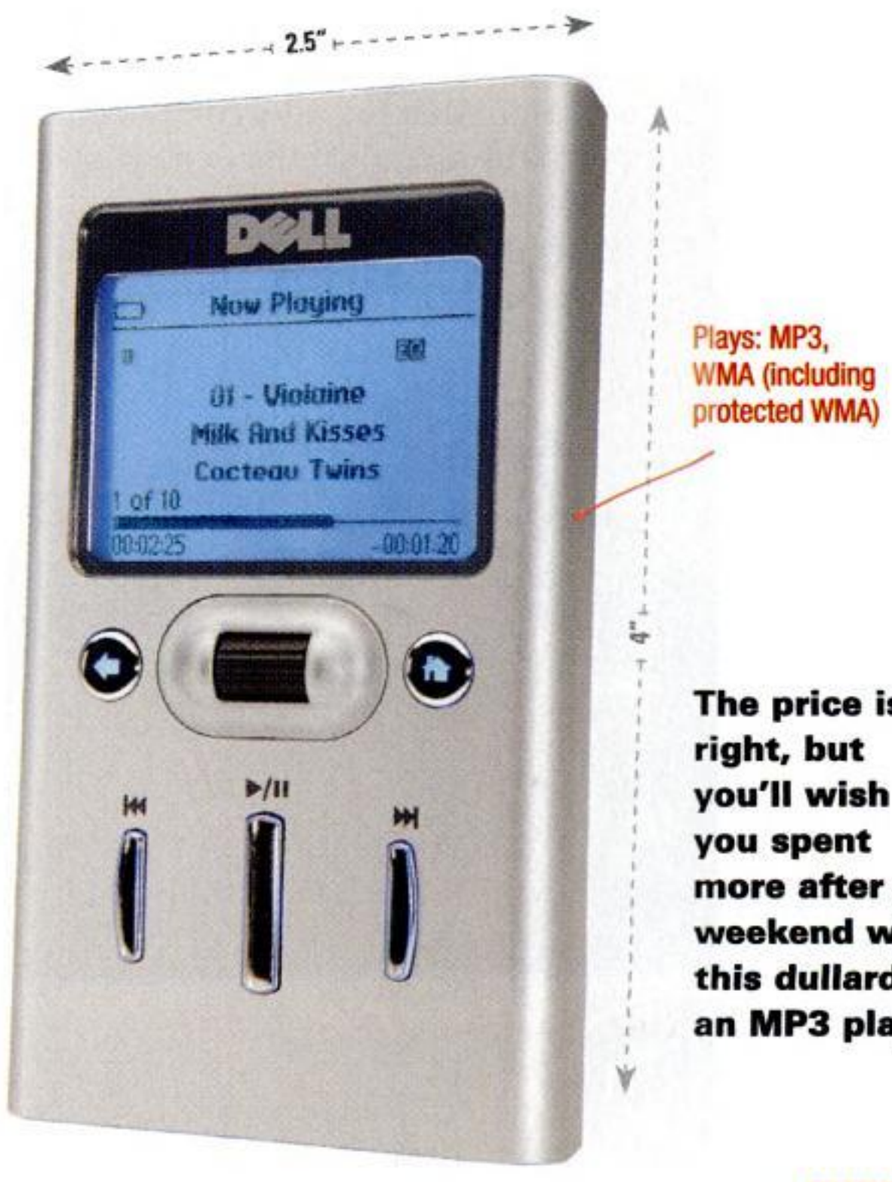
The verdict may seem harsh, but we feel that Dell earned it. The Dell DJ does work, the sound is far from terrible, and the battery life of 14 hours at 75 percent volume is acceptable. But it's driven down on the Verdict-O-Meter by other MP3 players with more features, better sound, lighter weight, and a general sense of ambition.

DELL DJ 30GB
MAXIMUM PC VERDICT 5

MARSHES
Relatively inexpensive, sturdy.

HARSHES
Proprietary cable, oblivious to competition's features.

$270, www.dell.com



The price is right, but you'll wish you spent more after a weekend with this dullard of an MP3 player.

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Budget Videocard Bushwhacking

Modestly priced cards from nVidia and ATI duke it out for middle place

If you're looking for the best graphics performance from PC games, you gotta go big—or go home: After all, current-generation high-end videocards sell for $500.

But ATI and nVidia routinely lop off a few features from their premier GPUs, and then sell them at a significant discount. In the past, buying a board in the $200-to-$300 price range has had consequences in the form of diminished frame rates. Is this still the case?

This month, we pit a $200 GeForce board against a $300 ATI board to see if the middle of the market has grown any more attractive.

—MICHAEL BROWN

Leadtek WinFast PX6600 GT TDH Extreme

Leadtek offers gamers a $200 board based on nVidia's GeForce 6600 GT core. The PX6600 sports a core clock of 560MHz, and its 128MB of memory is clocked at 550MHz; the nVidia reference design clocks both RAM and GPU at 500MHz.

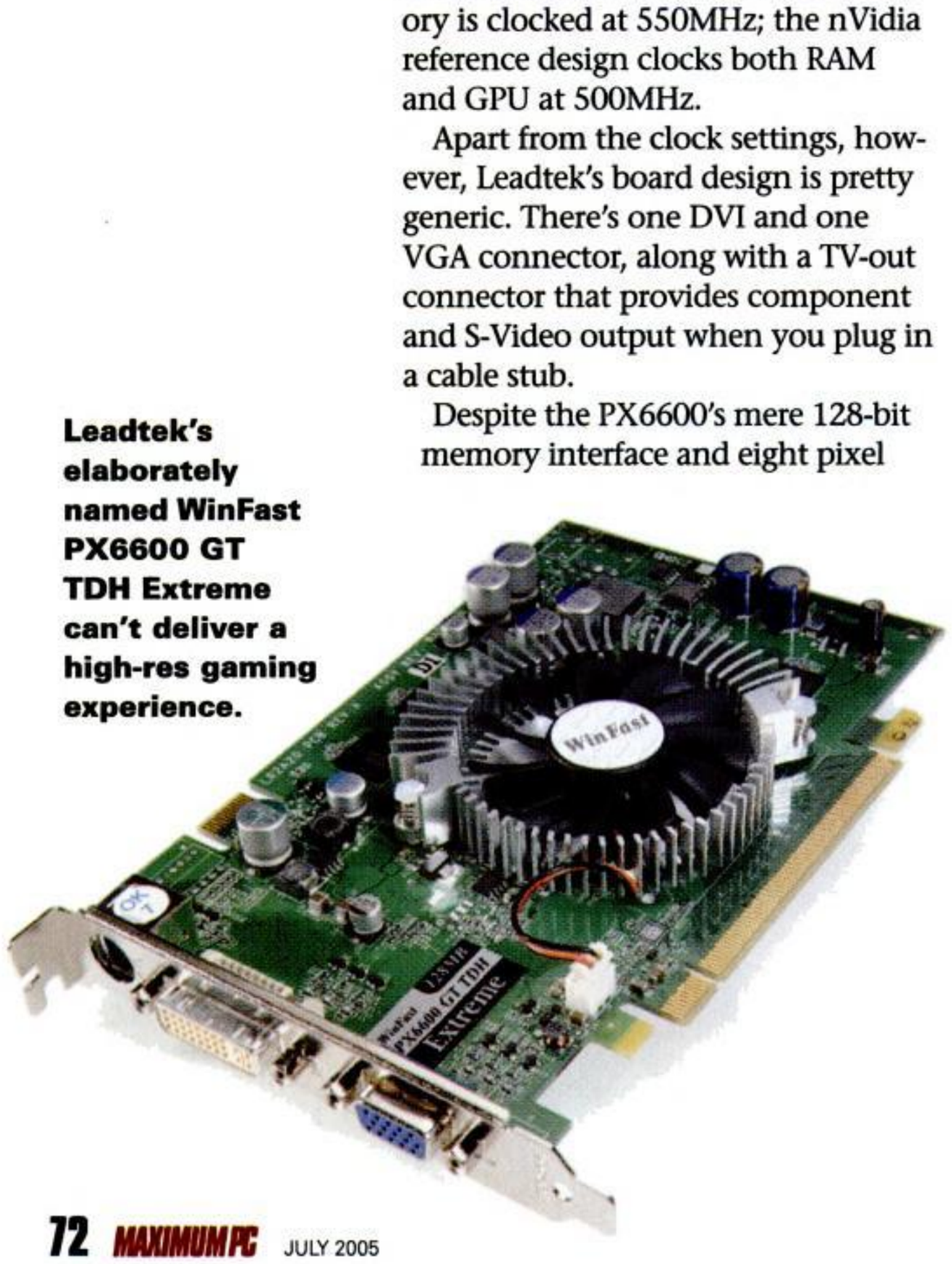
Apart from the clock settings, however, Leadtek's board design is pretty generic. There's one DVI and one VGA connector, along with a TV-out connector that provides component and S-Video output when you plug in a cable stub.

Despite the PX6600's mere 128-bit memory interface and eight pixel pipelines—the high-end boards sport 16 pipes—the GPU performs fairly well at this clock speed. Even better, you can run two cards in SLI mode.

The PX6600 slows to a crawl when running games with antialiasing and anisotropic filtering at full throttle, but you'll get reasonable performance with less-demanding settings.

Although there's nothing exciting about this card's benchmark numbers at high resolutions with all the visual goodies enabled, the PX6600 is a good value for people faced with a strict $200 budget—just don't expect to play games at your LCD's native resolution.

Leadtek's elaborately named WinFast PX6600 GT TDH Extreme can't deliver a high-res gaming experience.



Leadtek WinFast PX6600

MAXIMUM PC VERDICT 6

+ A CLOCKWORK ORANGE

Budget price, includes free games.

– AGENT ORANGE

Doesn't deliver the goods when you crank up the visual effects in games.

$200, www.leadtek.com

ATI X800 XL

We know how hard it can be when you've got $200 burning a hole in your pocket and a videocard that was new in 2002. If you can manage to pull together another 100 bucks, ATI's Radeon X800 XL will reward you with performance that's far superior to Leadtek's GeForce 6600 GT implementation.

Unlike the GeForce 6600, ATI's X800 XL isn't crippled by a reduction in pixel pipelines, video memory, or bandwidth: The board boasts 256MB of GDDR3 RAM with a 256-bit interface, and the GPU has a full 16-pipe complement. You will find compromises in terms of clock speed: GPU and memory are clocked at 398-and 493MHz, respectively, but the benchmarks speak for themselves.

ATI's X800 XL is well worth its $100 premium over Leadtek's GeForce 6600 GT offering.

Unlike ATI's flagship Radeon X850 XT, the X800 XL is a single-slot card. The lower clock speeds eliminate the need for a honkin' fan to keep things cool. There's one DVI and one VGA connector, plus a connector for analog video-out (the card comes with six-foot S-Video and composite cables, and a stub cable for component video).

ATI hasn't come up with a dual-card solution to compete with SLI—yet—but its X800 XL clearly outshines a single GeForce 6600.

ATI X800 XL

MAXIMUM PC VERDICT 8

+ FULL METAL JACKET

Excellent performance for a midrange videocard; consumes only one slot.

– NEHRU JACKET

Only one DVI connector.

$300, www.ati.com

BENCHMARKS	Leadtek WinFast PX6600 GT TDH Extreme	ATI X800 XL
3DMark 2005	3,950	**5,536**
3DMark 2003	9,172	**10,920**
3DMark 2003 Game 2 (fps)	14.1	**22.1**
3DMark 2003 Game 4 (fps)	18.8	**32.1**
Halo 1.06 (fps)	48.0	**54.9**
Doom 3 Demo 1 (fps)	21.1	**31.0**
Far Cry 1.31 (fps)	30.1	**60**

Best scores are bolded. All benchmarks are run on our Athlon FX-55 test system, which includes an nForce4 SLI motherboard and 2GB of DDR SDRAM. Halo 1.06 tested at 1600x1200 with sound disabled. Doom 3 tested at High Quality 1600x1200, 4x AA. Far Cry 1.31 and 3DMark 03 Game2 and Game4 are tested at 1600x1200, 4x AA, and 8x aniso. 3DMark 03 and 3DMark 05 are run using default settings.

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PUT DOWN THAT REMOTE!

It's Time for the Maximum PC Ultimate Guide to Entertainment PCs!

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- Build your own entertainment PC!
- Ultimate big screen buyer's guide
- How-to integrate an entertainment PC with your home theater
- Six Media Center Edition 2005 computers reviewed!
- How-to copy every disc you own, CDs and DVDs!
- How-to stream music, movies, and TV to every room in your home!
- Capture, Edit, Burn—Share your home movies and pictures on DVD

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Every Step Explained!
HOW TO STREAM MEDIA
TO EVERY ROOM IN YOUR HOUSE!
REVEALED: VOODOO'S NEW MEDIA CENTER PC!
MEDIA CENTER PCs LOOK SLICK, BUT DO THEY PERFORM? FIND OUT INSIDE!

ON NEWSSTANDS MAY 31, 2005!

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NZXT Nemesis Elite Edition

Heavy metal protection for your PC

It's not often we see a case with a totally unique feature or design trait, but we have to admit that the plate of solid stainless steel that covers the upper half of the Nemesis Elite's front bezel is certainly new to us. It's kind of cool too, and should protect your PC from arrows, errant dog toys, and all kinds of household dangers. The only strange thing about the steel plate is that it's painted black, so instead of standing out, it blends in with the black plastic bezels. A non-Elite version of the case features an unpainted stainless steel plate, and we think it looks more interesting.

The feature that earns this Nemesis its "elite" status, is a flip-up LCD display/fanbus on top of the case. The fanbus, which features rudimentary fan-speed control, comes with several probes you can use to monitor the temperature anywhere inside the case. The LCD/fanbus enclosure also sports jacks for USB, FireWire, and audio.

Like most mid-towers, the interior is cramped, and the close quarters are exacerbated by the motherboard tray, which isn't removable. Fortunately, both optical and hard drives are installed via slide-in rails. We dig the removable toolbox mounted in the 3.5-inch drive bays—yes, it takes up two of four hard drive bays, but it conveniently holds all the easy-to-lose drive rails and screws. Nicely, the case's tool-less design is maintained throughout the case—even I/O cards can be installed without screws.

Three blue-light 120mm fans handle cooling—one front intake, one side intake, and one rear exhaust. Each fan spins at a slow-'n'-steady 1,800rpm, which provides sufficient cooling without a lot of noise.

The Nemesis Elite's signature feature is the solid stainless steel plate that covers the front bezel. The word "Nemesis" flashes to indicate hard drive activity.

Although this case didn't leave us drooling, it certainly didn't make us curse. With more-than-adequate cooling, excellent features, and a light, portable design it's a decent enclosure for the money.

—MARK BEHNKEN

MAXIMUM PC VERDICT 8

SCOOP

Lightweight, great cooling, and useful LCD display.

SNOOP

No removable motherboard tray, slightly crowded, painted shield.

$110 (sans PSU), www.nzxt.com

Ahanix MCE601

A great foundation for a DIY media center

Media center PCs are all the rage these days, but no do-it-yourselfer worth his salt would be caught dead going the prefab route. The only option is to buy the right hardware, snag some PVR software, and choose a media center case in which to house it all. This month we showcase such an enclosure from newcomer Ahanix.

Designed to cohabitate alongside your existing home theater gear, the MCE601's silver, sleek profile resembles a typical audio/video component. A flush-mounted door beneath the optical drive flips down to reveal two USB ports, one FireWire port, audio jacks, and an empty 3.5-inch slot for a media card reader or—*gasp*—a floppy drive. The case also sports a vacuum florescent display that can be configured to show song tracks, movie chapters, and more.

The MCE601's interior is cramped, like many other desktop-style cases. It's therefore vital that you keep your wiring tidy, or you'll suffer cooling problems. We found the rear-mounted dual 60mm fans sufficient for most configurations, as long as there weren't any cable clumps blocking airflow from the front of the case.

We were surprised to find that this case has space for three hard drives, but given its lack of active drive cooling, we think it would be foolish to fill more than two of the bays. Using more than one optical drive is not an option. Behind the optical drive cage is a 350-watt "custom" ATX power supply. The unit is skinnier than a standard ATX PSU, to accommodate the case's slim formfactor. While the power supply is sufficient for a standard system configuration, a beefier setup might require a replacement PSU—but good luck finding one that has the same unique shape.

With its sleek exterior and front-panel LCD, the MCE601 blends right in with even the swankiest home theater setup.

While it definitely takes some patience and forethought to build a system in such a slim, confining case, the MCE601 is one of the better media center enclosures we've reviewed. It's expensive compared with a standard mid-tower, but if you're dead-set on incorporating your media center with your other home theater gear, it's a worthy solution.

—MARK BEHNKEN

MAXIMUM PC VERDICT 8

SLEUTH

Solid design, ample storage, and decent cooling.

SLOTH

Requires a custom PSU and is pricey.

$293 (PSU is included), www.ahanix.com

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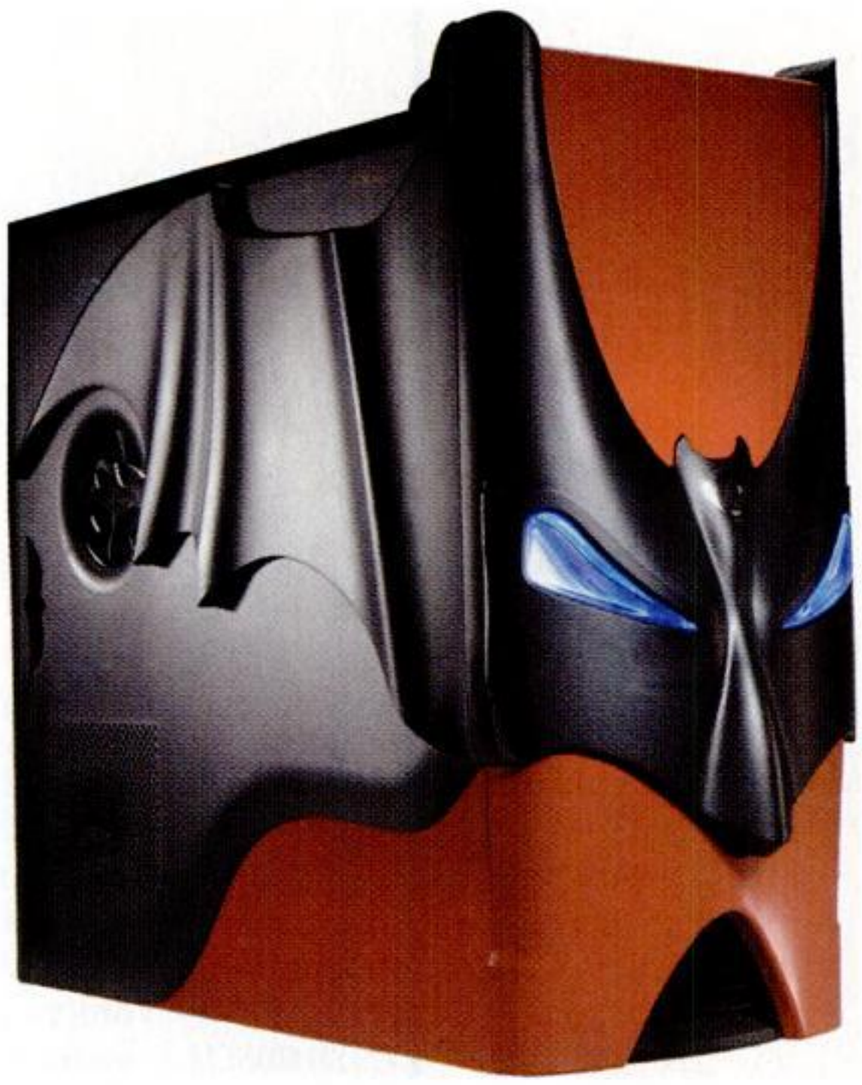
CoolMax XBat ATX case

A mish-mash of good and "bat" features



Bats are the only mammals that can fly. This interesting fact won't save the XBat case from a low verdict, though.

Just when we think we've seen it all, along comes the XBat case from newcomer CoolMax. The XBat sports the menacing profile of the Dark Knight—Batman himself—but behind the bezel, the XBat is nothing more than a mild-mannered ATX mid-tower. No aesthetic detail was too small: The masked avenger's blue eyes light up when you turn on your PC, and each side is decorated with a bat wing and Batman logo—one of which doubles as a side fan grill. We know beauty is in the eye of the beholder, but office opinion was unanimously negative on this one, although bat aficionados may dig it.

Beneath the plastic mask lies a hefty steel enclosure that weighs in, when empty, at a superhero-crushing 25 pounds. The top of the case sports two handy USB 2.0 ports and audio jacks as well as power and reset buttons. The case's drive setup is a bit odd: Below the four hard-mounted, tool-less 5.25-inch drive bays are two removable 3.5-inch drive cages—with three 3.5-inch slots each. (There are two external and four internal 3.5-inch bays.) Both drive cages pop out with the push of a latch, but you have to use old-fashioned screws to mount drives inside them. PCI cards are secured with a wonky plastic retention mechanism that's a pain in the ass to use. Each slot has a small black latch that you pull out when you want to insert the card and then push back in to secure it. The catch is that it only pulls out about a half-inch or so, and partially blocks the slot. We'd prefer a traditional design to this mechanism.

Although cooling options are plentiful, our test unit shipped with a single 80mm side fan, which is woefully inadequate. Three other fan bays lie fallow, including an 80mm bay in front of the HD cage and two 80mm exhaust bays in the rear that can alternately accommodate a single 120mm fan.

The XBat shows signs of promise, but it's ultimately held back by its lack of cooling, substantial weight, and annoying PCI card retention mechanism. When you add these issues together with the over-the-top bat fuselage, you're left with a less-than-impressive product.

—MARK BEHNKEN

MAXIMUM PC VERDICT 6

+ CATS

Mostly tool-less features, and plenty of cooling options.

– BATS

Heavy; PCI card retention device is a PITA; cooling is insufficient.

$80, www.coolmaxusa.com

Focal JMlab iCub Integrated Subwoofer

Introducing the world's first 0.1 audio system

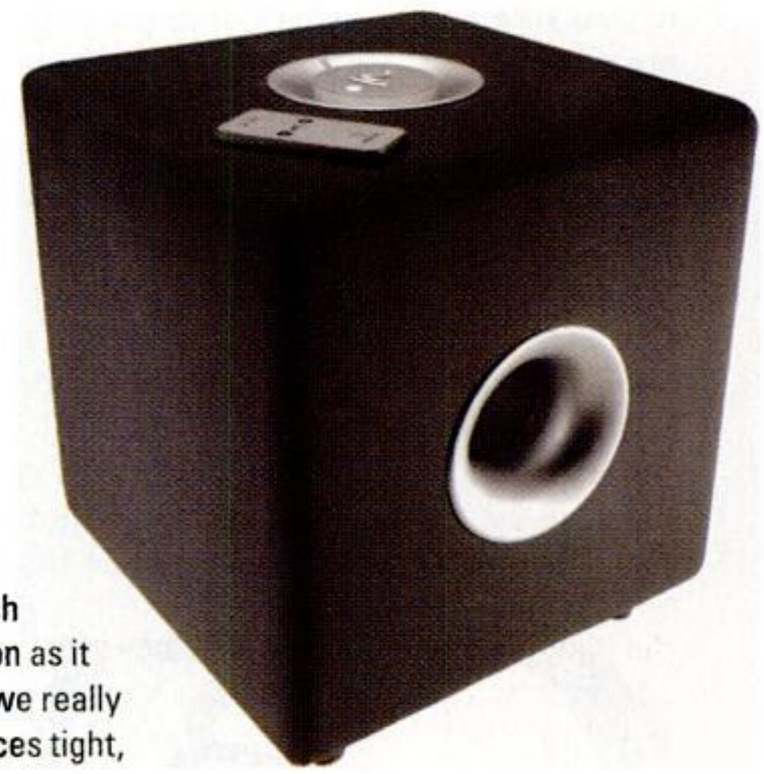
The iCub is an early indication that the hi-fi industry is finally coming to terms with the age of MP3s and streaming audio.

When does it make sense to pay $750 for a 2.1-channel audio system that doesn't include satellite speakers? When you crave room-filling sound, when you don't need a full-blown receiver, and when the system is as unique, well-designed, and flat-out cool as the iCub integrated subwoofer.

The iCub is the perfect companion for a streaming-audio box sans amplifier, or an MP3 player. Add a pair of loudspeakers—not the type of near-field monitors that come with PC-oriented speaker systems—and you're set. Three BASH amps send 150 watts RMS to the integrated subwoofer and 75 watts RMS to each satellite. BASH amps strike a good balance between the characteristics of audiophile-type Class AB amps, which typically sound more like "live" music, but are expensive and inefficient, and those of more mainstream Class D amps, which are moderately priced, and highly efficient, but don't produce the same hyper-realistic sound.

A sub that's designed to power satellite speakers is unusual, but iCub goes even farther off the beaten path by connecting a Toslink optical digital-audio input to a 20-bit DAC. Analog sources can be plugged into either the RCA or 1/8-inch stereo jacks. Whatever source you plug into the iCub, you'll want to play high-quality material (uncompressed WAV, lossless compressed audio, or MP3s ripped at the highest possible bit rate). Anything less would be a waste of this system's capabilities.

When you're talking about high-end audio, $750 isn't a lot to spend on an excellent powered subwoofer. We could do without the bling-bling motorized volume control—even if it is backlit by a ring of cool-blue LEDs—but we definitely appreciate the separate bass control, two-position crossover (85- or 110Hz, so you can blend the bass with either large or small satellites), and the auto-sensing power switch (the amp turns itself on as soon as it receives a signal). That said, we really dig the sound. This sub produces tight, clean bass—and plenty of it.



We paired the iCub with a pair of the manufacturer's diminutive Sib satellite speakers ($375), and the trio gave our $3,000 home stereo system a run for its money, filling our 800 square-foot living room with sound. The iCub isn't for everyone. If you're looking for a near-field solution for your PC, it's clearly overkill. But if you're in the market for a ground-pounding sub to pair with a streaming audio system or even a simple MP3 player, give this box a listen.

—MICHAEL BROWN

MAXIMUM PC VERDICT 9

+ TIGER CUBS

Almost exactly the right collection of components; comes with a remote.

– BILLY-CLUBS

We could have done without the glowing, motorized volume control; expensive.

$750, www.focal-fr.com/accueil_en.htm

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Flash Dance

Two USB keys perform the benchmark boogie

The phrase "innovative USB key" is about as uncommon as "this game will be available on the Mac," so we get pretty excited when a USB key that sports a new feature or cool doodad darkens the Lab door. This month two such keys arrived: one with a waterproof rubber shell and the other with a snazzy color scheme and retractable USB connector.

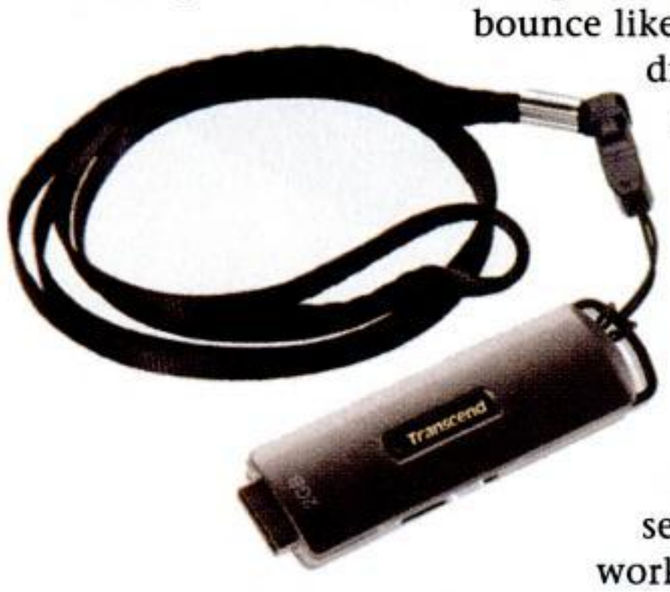
—JOSH NOREM

Corsair Flash Voyager

Big-time memory-maker Corsair has finally thrown its hat into the USB key ring with the Flash Voyager, a uniquely designed USB key that sports an awesome rubber casing and even awesomer performance. The package includes the USB key (sizes range from 128MB to 2GB), a nifty lanyard, and a handy two-foot USB extension cable. It also includes a utility that lets you format the drive, partition it, make it bootable, and even create a password-protected "hidden" partition, which is essential for this type of device.

Obviously, the most notable feature of this key is its exterior, which is covered in a thick rubber shell. The surface of the key feels like a racquetball, with especially thick sections of rubber on the sides and top that make the key bounce like a ball when dropped. Corsair claims the key is water resistant, and sure enough, even after being submerged in a bowl of water for about 10 seconds, the key worked just fine.

If you like to match your shoes with your USB key—and who doesn't?—the Transcend JetFlash is available in a range of sassy colors. Yes, we said sassy.



Even more impressive than the drive's wrapper are its inner workings; it has the fastest write and read speeds of any key we've ever tested.

The only complaint we have about the Voyager is that in order to use the included security software you have to install the utility on your PC's hard drive, instead of having it run directly from the USB drive. This can be a major problem if you are using another PC, say, at an internet cafe or library, and are thus prevented from installing applications.

Aside from this one complaint, the Voyager is the best USB key we've ever tested, bar none.

Corsair Flash Voyager

MAXIMUM PC VERDICT 9

+ RUBBER SHELL

Smoldering performance, excellent bundle, shock and water resistant.

– THIN CANDY SHELL

Rubber shell collects pocket lint quite easily.

$90 (1 GB), www.corsair.com

Transcend JetFlash 110

If the Flash Voyager is Sam Fisher from *Splinter Cell*, the JetFlash is Reese Witherspoon from *Legally Blonde*. One is rugged and reliable, while the other is all about style. The JetFlash 110's sparkling exterior is available in a range of tantalizing colors including green, blue, red, and yellow. In addition to the USB key (available in sizes ranging from 128MB to 2GB), the superb bundle includes a USB extension cable, a lanyard, and a utility that does everything except the laundry. With it, you can partition the drive, restore all factory default settings, create hidden partitions, make the JetFlash bootable, and even lock the PC whenever the JetFlash is removed.

You no longer have to be a deep-cover CIA agent to have a rubber-coated USB key. The Corsair Voyager is for external use only, however.

Aside from the spiffy looks and software, the other interesting feature of the JetFlash is its retractable USB port. It eliminates the need for a cap, which we like, but sometimes when you apply force to the connector—like when you push it into the USB port—the port retracts into the body of the key. The solution was to hold our finger over the latch, which ensures the port stays extended. You could call it a "latch-22."

In benchmarks, the JetFlash's performance left a rank smell in the Lab. Where the Corsair key required a scant 46 seconds to write 400MB, the JetFlash took an agonizing 97 seconds. Its read speeds were a bit more respectable, but still slower than the Voyager's.

We love the advanced functionality of the JetFlash's software, and we even like its aesthetics. Unfortunately, we can't get over its piss-poor performance and the mildly annoying USB port slider.

Transcend JetFlash 110

MAXIMUM PC VERDICT 6

+ SERIAL BUS

Available in pretty colors, very portable, and great software bundle.

– SERIAL KILLER

Slow performance, and the retractable USB port is finicky.

$180 (2GB), www.transcendusa.com

DARE to COMPARE

	CORSAIR FLASH VOYAGER	TRANSCEND JETFLASH 110	M-SYSTEMS DISKONKEY
400MB write (sec)	**46**	97	60
400MB read (sec)	**38**	46	48

Best scores are bolded.

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PQI mPack P800

The feel-good portable video player of the year

Divx, Xvid, AC3 audio, VOB files, surround sound—the P800 plays them all. Just about the only thing it won't do is make your popcorn.

In the movies, a scrappy ne'er-do-well gets thrown in with a jaded curmudgeon and together—against all odds—they find love. At *Maximum PC*, a me-too product from an unheard of electronics manufacturer arrives on the desk of a jaded editor and together, against all odds, they find love. At least, that's what happened *this* time, with the mPack P800 from PQI.

Let's start with the Big Reveal: The P800 does three essential things that no other portable video player (PVP) we've seen can do. First, it can play decrypted VOB files, the format used on DVD-Video discs. This means you can transfer the contents of your DVDs directly to the player without having to endure the tedium of video recompression; the 80GB drive will hold eight or nine films—enough for a summer's worth of slumber parties. Second, the P800 supports video encoded with AC3 (Dolby Digital) audio. Finally, it also supports the SRT subtitle format, so if you've got a foreign language video file that lacks embedded subtitles, you can track down an official or fan-created SRT file on the net and view the text-based subtitles on the P800.

The P800 comes with a ridiculous number of accessories, including a wired remote and an infrared remote; a small carrying case for the player alone; and an extremely tough, larger case that includes space for the AC adapter and cables too. It's the first PVP we've seen to include a SPDIF-out connector, and there's also a CompactFlash card slot for viewing (or storing) photos from your camera on the P800. The usual suspects—an MP3 player, a line-in for recording from analog sources, an FM tuner, and even a simple calendar and contacts viewer—are included as well. The removable battery lasted six and a half hours before wheezing out—not bad at all.

The P800's somewhat coarse 3.5-inch, 320x240 LCD screen leaves a lot to be desired. It's fine for casual viewing, but nowhere near as sharp as the Archos AV400 (reviewed in October 2004). Playback on our TVs and monitors looked fantastic, but if the P800 had been graced with the ultimate screen, it would have received a perfect 10 verdict. Even in the movies, no relationship is without its flaws.

—LOGAN DECKER

MAXIMUM PC VERDICT 9

+ DRIVE-INS

Plays virtually *every* format; packed with features; bundled with a decadent array of extras.

– DRIVE-BYS

The P800 deserves a higher-quality screen than it sports.

$600 (40GB), $690 (80GB), www.pqimemory.com

Doom 3: Resurrection of Evil

Talkative, dark, and boring as Hell

The only "new" features to be found in this *Doom 3* expansion are lifted from other games, such as this double-barrel shotgun from *Doom II*. Yawn.

In *Resurrection of Evil*, designer Nerve Software takes the ball that id dropped and feebly kicks it around in the dark for—well, let's say six hours. Another romp through the cramped corridors of the infamous Mars research facility will certainly please fans of the first game, but won't convert those left cold by *Doom 3*.

RoE begins where the first game left off, on Mars, where some new hell spawn have been unleashed. It will come as a surprise to nobody that the game offers the same annoying gameplay mechanics as its predecessor: Poke around in the dark with your flashlight until you see a demon, then shoot it. Nerve slightly reworked the *Doom 3* formula to address a few grievances folks had—monsters now don't spawn directly behind you in every single room or jump out at you from behind closed doors. The real challenge presented by the monsters of *RoE* is that there are more of them—a lot more. To help you in these situations *RoE* features an artifact that slows down time, a la *Max Payne's* bullet-time. It's a totally unoriginal addition, but it does add a twist to the standard shoot-'em-up gameplay, and it becomes especially important later on in the game when you'll face old-school *Doom*-size hordes of enemies thirsting for your blood.

As you progress and defeat the unimaginative boss monsters, the artifact not only allows you to slow down time, but also grants you the ability to kill anything with one punch and to become invincible. The artifact's powers are an interesting addition to the game, but they don't improve or alter the game's core gameplay, which by now feels woefully dated.

There's also a new weapon—the Grabber, aka the gravity gun. Unfortunately it feels more like a wet-noodle ray than anything else, and we set it aside after the first few minutes of use. Multiplayer now includes CTF, and up to eight players can join a server, though there's really no reason to play it—not with dozens of other, better CTF games currently available.

While *RoE* satisfies the minimum requirements for an expansion, the game fails to add anything new or innovative to the *Doom 3* experience. It's just more of the same, with "new" features we've already seen in other popular FPS games. Whoop-de-freaking-do.

—JOSH NOREM

MAXIMUM PC VERDICT 5

+ INNOVATION

Good graphics (when you can see them).

– IMITATION

Tedious gameplay; "new" features are actually old; short and pricey.

$35, www.doom3.com, ESRB rating: M

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Psychonauts

The wildest ride in platformer history

Raz snares a hare using his telekinetic powers. If he'd used pyrokinesis, the results would have been somewhat different.

Some kids can play a Chopin Mazurka just by listening to a recording of it. They go to Julliard. Other kids can blast a squirrel into a few clumps of loose fur and gristle with nothing more than a thought. They go to Whispering Rock Psychic Summer Camp, where tots with paranormal gifts receive training to harness and control their PSI powers (including levitation, telekinesis, and clairvoyance) in hopes of one day joining the elite group of secret agents known as Psychonauts. In this game, you play as ambitious Rasputin—or "Raz"—for whom even a few days at Whispering Rock is a dream come true. That is, until his camp buddies transform into drooling, TV-addicted morons. For this there can be only one credible explanation—*someone's been stealing their brains.*

Because no one is willing to talk about the missing brains, Raz takes it upon himself to get to the bottom of things by using the Psycho Portal. Slap that gizmo on the back of someone's head, and you'll soon be tumbling into his or her subconscious, where the deepest secrets lurk and personal demons are on the attack.

The voice acting is superb, and the story is more satisfying than most Hollywood movies. But what elevates *Psychonauts* into greatness is the way the game's puzzles rely on the internal logic of the mind you're exploring. For instance, finding an elusive milkman in a paranoid security guard's subconscious resolves into a ridiculous fracas that makes no sense at all—unless you are a paranoid security guard. And while you can use your PSI-powers to "silence" the hammer-wielding censors in the mind of an excessively uptight schmuck, those powers are useless in reviving the spirit of a faded actress as she crumbles beneath the humiliating insults of her monstrous inner critic. Those are just two of the 13 fragile psyches—including megalomaniacs, melancholic artists, and a lungfish—that you'll encounter throughout the game (and don't be surprised if you're forced to deal with some personal issues of your own).

Calling *Psychonauts* an "imaginative platformer" is like describing *Half-Life 2* as an "engaging first-person shooter." The description might be technically accurate, but it's pitifully inadequate. *Psychonauts* is the most unpredictable, hilarious and—what the hell, we'll say it—mind-blowing action-platformer ever made

—LOGAN DECKER

MAXIMUM PC VERDICT 9

+ ARGONAUTS

Highly imaginative; superb graphics, voice acting, and story.

– POLKA DOTS

Marred by infrequent but annoying audio bugs.

$30, www.pschonauts.com, ESRB rating: T

Lego Star Wars

A long time ago, in a toy box far, far away

In *Lego Star Wars* you'll re-enact scenes from the *Star Wars* prequels, Lego-style! Here Yoda and Obi-Wan battle Dooku.

Lego Star Wars is like any other *Star Wars* game, but everything in this game is built from Lego blocks. That's right; world geometry, vehicles, even the characters you play are built from small, colorful interlocking modules. Using the Force, you can break down and rebuild many objects—after all, they're made from Legos—in order to complete puzzles as you progress through the story arc of all three prequel movies.

Unlike most platformers, in *Lego Star Wars* you always have multiple characters available to complete your missions. Everyone from Obi-Wan Kenobi to Count Dooku are available—and more than 30 characters can be unlocked by successfully completing missions and collecting items. Different characters have different abilities; Jedi and Sith have access to the Force, blaster-wielding guards can use Episode I-style grappling hooks, and different droids can unlock new areas for you to explore. You can swap between characters in your party at will.

That this is a budget-priced children's game explains its short length—we completed 95 percent of the missions in about five hours—but some of the puzzles you'll encounter are difficult enough to challenge experienced gamers. Each mission also includes extra areas and collectibles that are only accessible if you revisit the level with different characters—and different special abilities—than you used during the story mode.

When you play the game as a Jedi, and thus have access to the Force, the objects that can be manipulated with your powers exhibit a faint glow. Press your Use Force button, and the appropriate Force power is automatically at your disposal. This simple approach is much better than the incredibly complex scheme used in the *Jedi Knight* series of games.

There's a lot we like about *Lego Star Wars,* but we have some serious gripes as well. The game is just too damn short. We also encountered a bug that prevented us from completing the Phantom Menace story arc. Some might see that as a blessing, but we did not. Finally, the default control scheme with the keyboard is virtually unusable. Further compounding the problem, if any game controller is connected to your PC, the game insists on using that for player one.

—WILL SMITH

MAXIMUM PC VERDICT 7

+ LEGO

Novel concept, good execution, awesome Force power control, play as every character.

– EGGO

Occasionally buggy, extremely short, requires gamepad.

$30, www.legostarwarsthevideogame.com, ESRB rating: E

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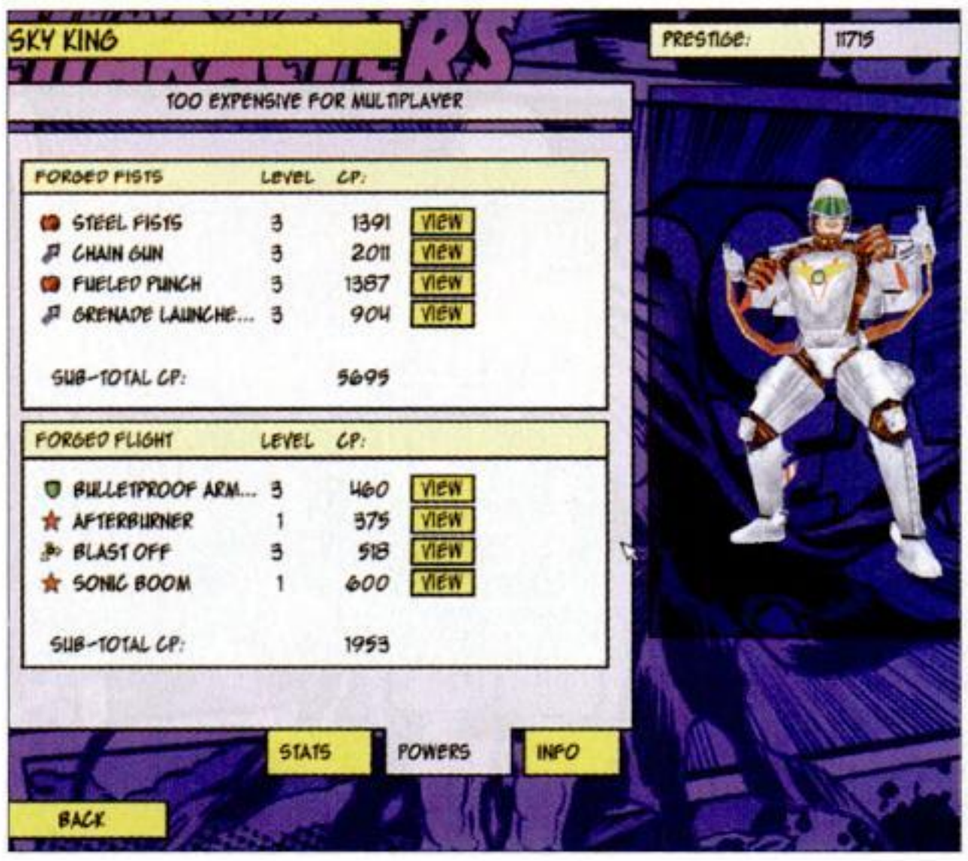
Freedom Force vs. the 3rd Reich

Lay the smack down on time-traveling Nazis... for justice!

Strength in numbers doesn't guarantee victory. Keep an eye on your team's health!

This sequel to one of our favorite squad-based strategy games is just as engrossing and fun as the original. *Freedom Force vs. the 3rd Reich* serves up a hot dish of furious, strategic action anchored by one of the best video game plots ever written.

For the uninitiated, this comic book–themed sequel is a squad-based strategy game played out in real time. You command a team of four superheroes determined to save the world from the unimaginable terror of nuclear threats, fascist armies, and zany villains. The game begins where the original left off, with the world's premier superhero team—the Freedom Force—dealing with the death of Man-Bot, one of its core members. Man-Bot's selfless sacrifice has serious repercussions that are revealed throughout the game, but so as not to spoil the ending, we'll just say that the many plot twists and personal betrayals are delightful to experience as they unravel.



The more powerful a character is, the tougher it is to draft him to your team.

This game's strength is its story, as the developers managed to write a complex comic-book plot that interweaves new villains, time-traveling paradoxes, and disasters of cosmic proportions. Villains such as the caricatured Fortissimo (a bellowing opera singer) and Red Sun (a dishonorable Japanese warrior) team up with returning baddies from the original for a truly diverse selection of foes. Every villain has his or her own motives and back story, all of which build up to dramatic confrontations, verbalized with campy golden-age dialog that would make even Stan Lee blush.

All the original heroes have returned as well, but you'll build their experience points and upgrade their powers from scratch. Cornball humor and lighthearted banter fill the cutscenes between missions, and give you a feel for each character's unique personality and foibles. Every characterization is over the top and each superhero has at least one chip on his shoulder, which makes the personalities more believable and entertaining.

Laying the smack down is a stop-and-go process, as you often have to pause and command individual squad members to unleash their powers. While this can occasionally get tedious, the right combination of moves not only effectively wins the fight, but is almost always the most dazzling to behold. Using a mental stasis field to hold a baddie in place while you pound him with flaming punches is just plain cool, and the ability to hurl cars at temporally displaced roman soldiers gives us a special feeling down below. Highly detailed damage modeling not only makes for great eye candy, but is also practical in combat. We only wish the character models were higher-res and less blocky.

The character-creation feature has returned and is again a highlight

This is the Rumble Room, aka the new hero testing ground. You can use it to take newly created characters for a test drive.

of the game. You'll love making personalized heroes and earning enough prestige to recruit them into the game (after testing them out in the Rumble Room). Character-origin movies for new heroes are still fun to watch, and the three champions you meet when you travel to the past are written so their relationships with the Freedom Force make sense. The rousing multiplayer mode is icing on the fantastic single-player campaign cake.

—NORMAN CHAN

MAXIMUM PC VERDICT 9

+ TIME TRAVEL

Superb storytelling grounded in addictive strategy and topped with robust character creation.

– TIME MAGAZINE

Unimproved character models and some corny voice acting.

$30, www.freedomfans.com, ESRB rating: T

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Samsung (SP2004C)
200GB 7200RPM 8MB-Cache
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OC 256MB GDDR3/PCI-E
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(RH-M020-1SW)
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Radeon X800 XL
256MB DDR/PCI-E
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190670
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AMD Athlon™ 64/FX & Sempron™ Barebone Systems (754 & 939)

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AMD Athlon™ 64 processor 3200+
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w/480W PS
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AMD Athlon™ 64 FX-55 processor (939)
Starting @ **$1229**

AMD Athlon™ 64 Processors feature HyperTransport™ technology & Enhanced Virus Protection for the Microsoft® Windows® XP- SP2

***AMD Athlon 64 and Athlon 64 FX are the ONLY Windows®-compatible 64-bit PC processor

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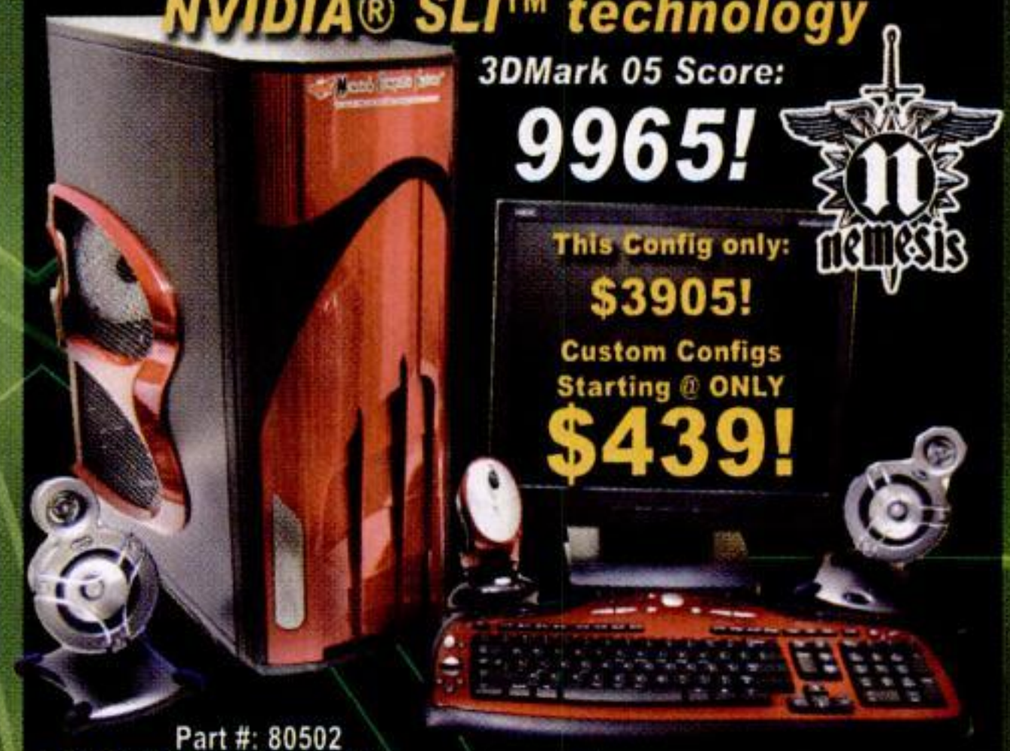

Part #: 80502

SELECTED COMPONENTS:
- Thermaltake Shark Full Tower w/FirePearl Custom Paint
- Antec NeoPower480 PS
- Asus A8N-SLI Deluxe NForce4 SLI
- AMD Athlon™ 64 FX-55 CPU
- 2 GB (2 pcs 1GB) (TWINX2048-3200PRO)
- 2 x WD 74 GB SATA HDD w/RAID 0 Setup
- Lite-On SOHC-5232K CD-RW/DVD
- Lite-On SOHW-1633S DVD-RW/CD-RW
- Mitsumi Floppy 7-in-1 Flash Reader
- 2 x eVGA Geforce 6800 Ultra 256MB GDDR3 PCI-E, TV-Out, and Dual-DVI
- Creative Labs Audigy 2 ZS Gamer
- Linksys WMP54G 54 Mbps Wireless G PCI Adapter
- Microsoft Windows XP Pro (SP2)

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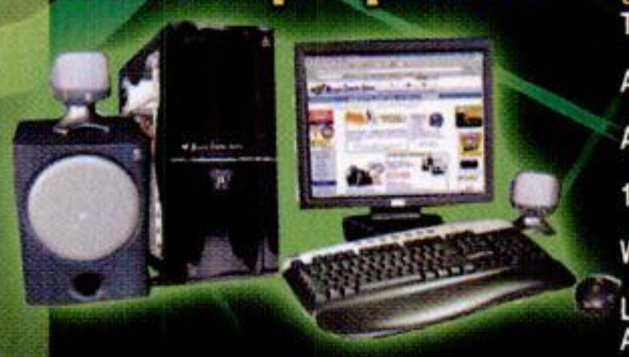
Monarch Adversary™ Value Gaming Desktop Special



Keyboard, monitor, and speakers available seperately - see website for all accessories.

Part #: 90371

SELECTED COMPONENTS:
- Thermaltake VB1430BWS Soprano Case w/430W Power Supply
- ABIT AV8 K8T800 Motherboard Onboard Audio, Video, SATA, LAN
- AMD Athlon™ 64 3000+ 512K (939) - includes AMD Certified heatsink
- 1 GB (2 pcs 512) DDR (333) PC-2700 Corsair (VS1GBKIT333)
- Western Digital 80GB SATA 8MB Cache 7200 RPM (WD800JD)
- Lite-On SOHC-5232KCD-RW/DVD
- ATI (Sapphire) Radeon 9800 Atlantis 128MB DDR, 8x AGP, TV-Out, and DVI
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Part #: 90837

SELECTED COMPONENTS:
- Thermaltake VB1430BWS Soprano Mid Tower Case w/Window w/430W Power Supply (Black)
- ABIT AV8 K8T800 Audio, GB-LAN, IEEE, USB, SATA w/RAID, DDR-400, ATX
- AMD Athlon™ 64 3000+ 512K 90nm (939)
- AMD Certified Heat Sink Fan
- 1 GB (2 pcs 512) DDR (333) PC-2700 Corsair
- Western Digital 80GB SATA 8MB Cache 7200 RPM (WD800JD)
- Lite-On SOHC-5232K 52x32x52X16 Combo CD-RW/DVD (Black)
- Mitsumi 1.44MB 3.5" Floppy Drive (Black)
- XFX GeForce 6600 GT 128MB DDR3, 8x-AGP, TV-Out, and Dual-DVI
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Part #: 80302

SELECTED COMPONENTS:
- Monarch 1150 Tower w/300 Watt PS
- Abit AV8 K8T800 Audio, GB-LAN, IEEE, USB, & SATA
- AMD Athlon™ 64 3500+ 512K (939) - includes heatsink and fan
- 1 GB (2 pcs 512) DDR PC-3200 Corsair
- Western Digital 160GB 8MB Cache 7200 RPM SATA (WD1600JD)
- Lite-On SOHW-1673 DVD-RW / CD-RW
- ATI (Power Color) Radeon 9600 Pro 256MB DDR/8x-AGP/TV-Out/DVI
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- 1024 MB Corsair XMS Xtra-Low Latency PC3200 DDR SDRAM Memory
- Dual nVIDIA GeForce 6600 GT 128MB Video Cards with SLI™ Technology Enabled
- Realtek ALC850 8-Channel On-Board Audio
- 160 GB 7200RPM SATA Hard Drive
- ATX Mid Tower Black Case with Brushed Aluminum Front Door and Side Panel Window
- Antec True 550W Power Supply for Extreme Power Reliability
- 16X DVD-ROM
- 16X Double-Layer DVD+/-RW DVD Recordable Drive

* This model number indicates relative software performance among AMD processors

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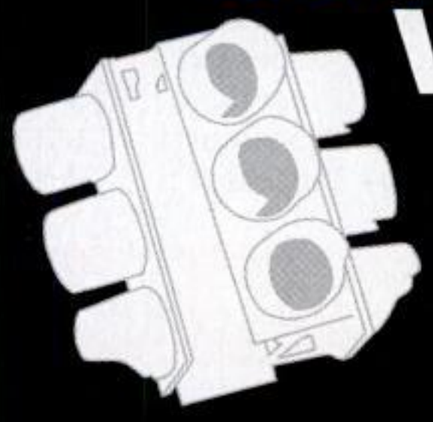

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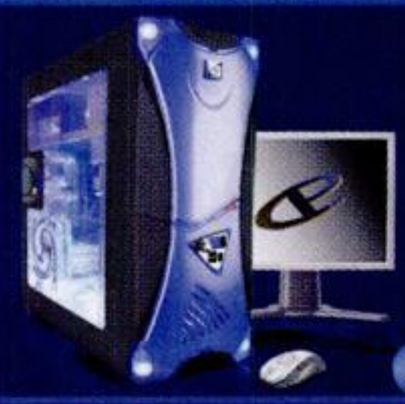

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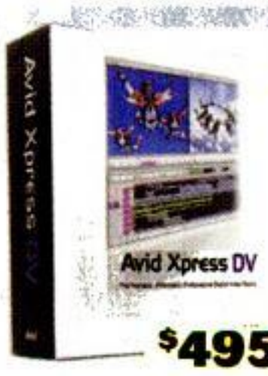

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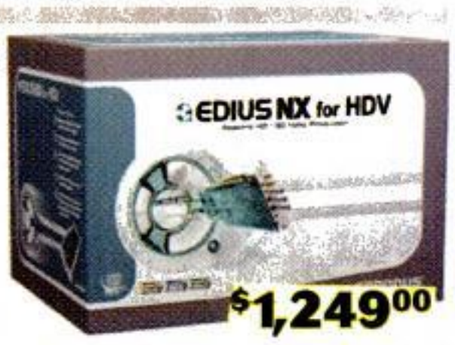

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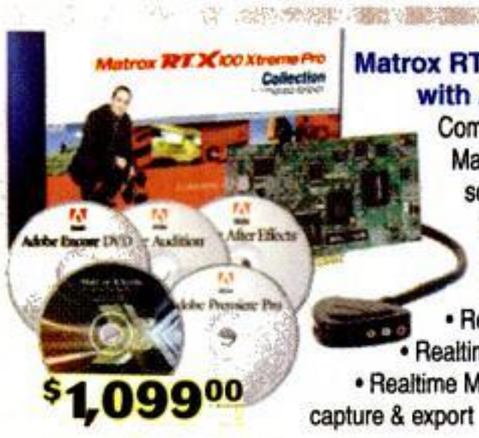

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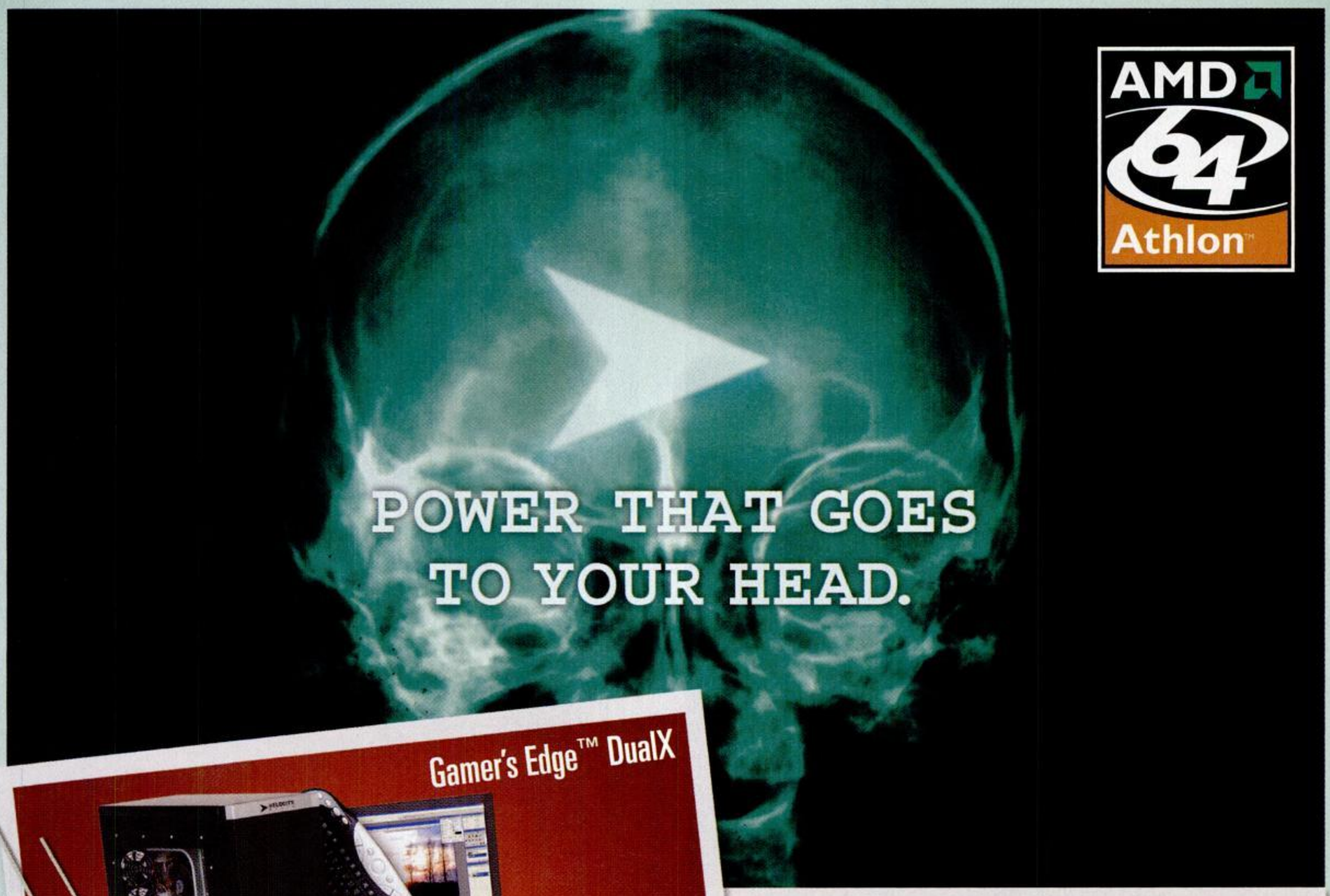

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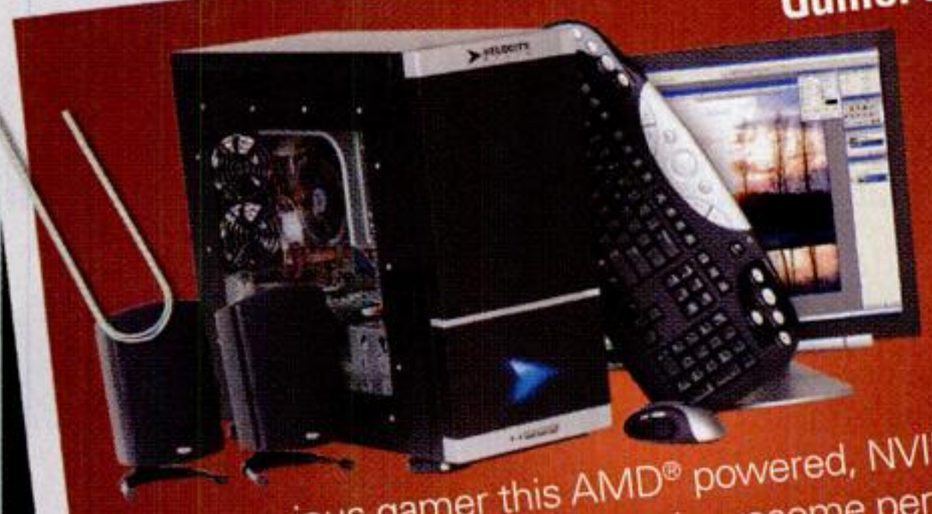

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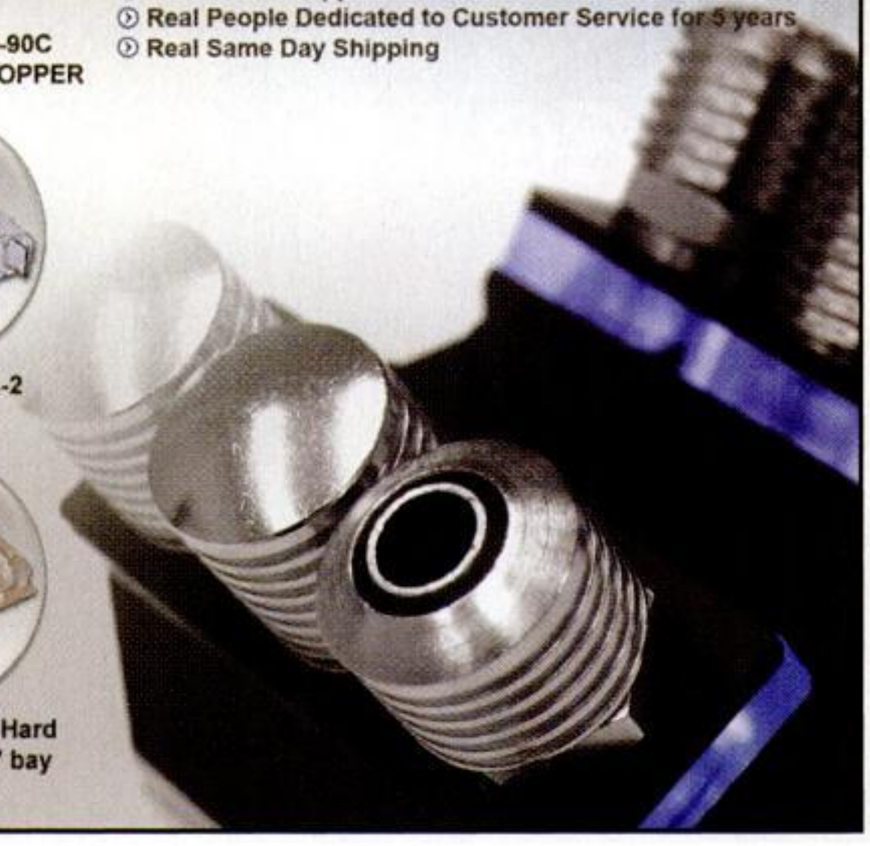

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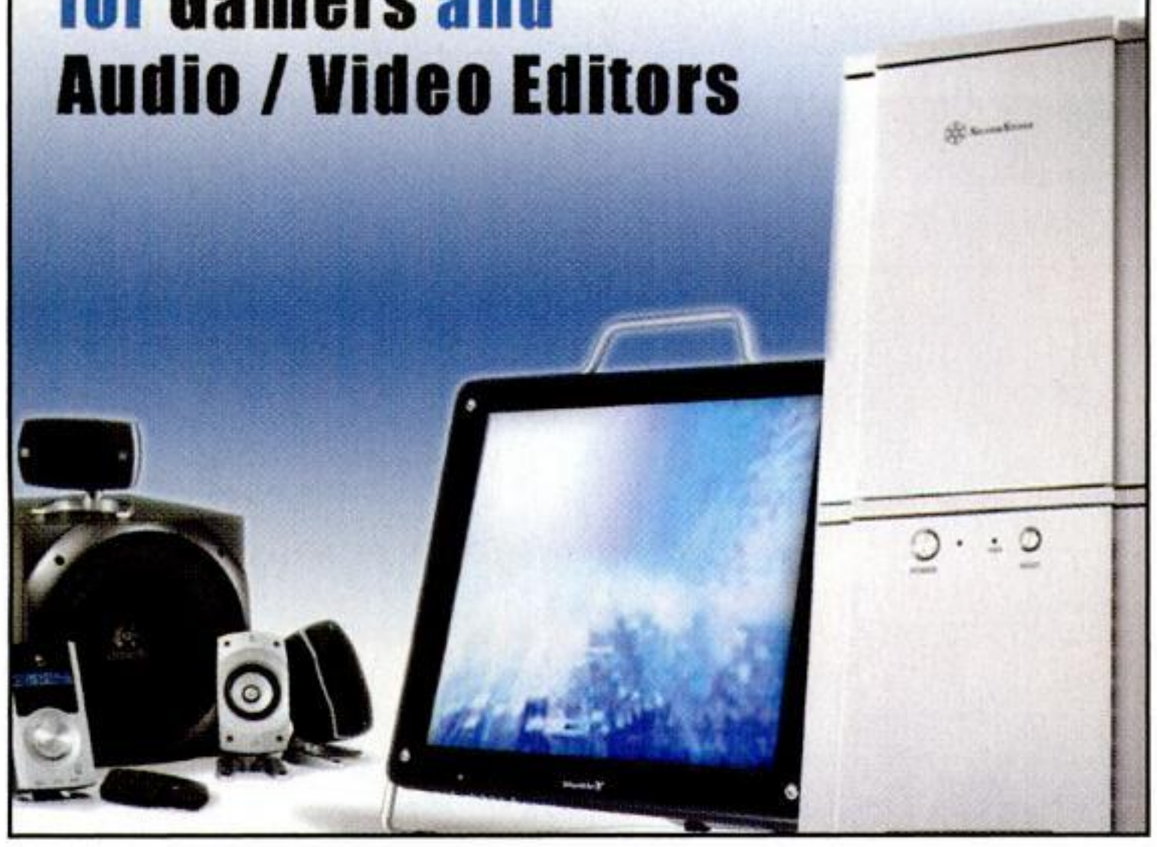

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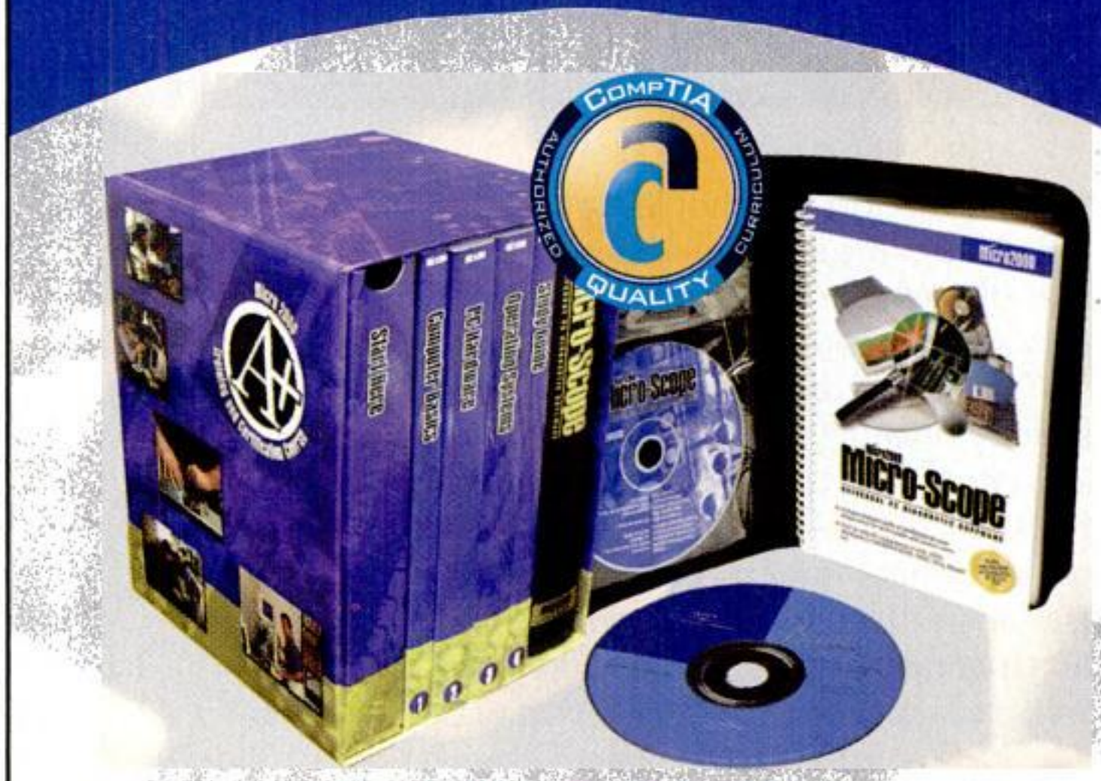

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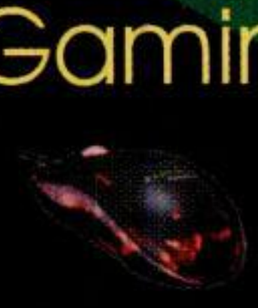

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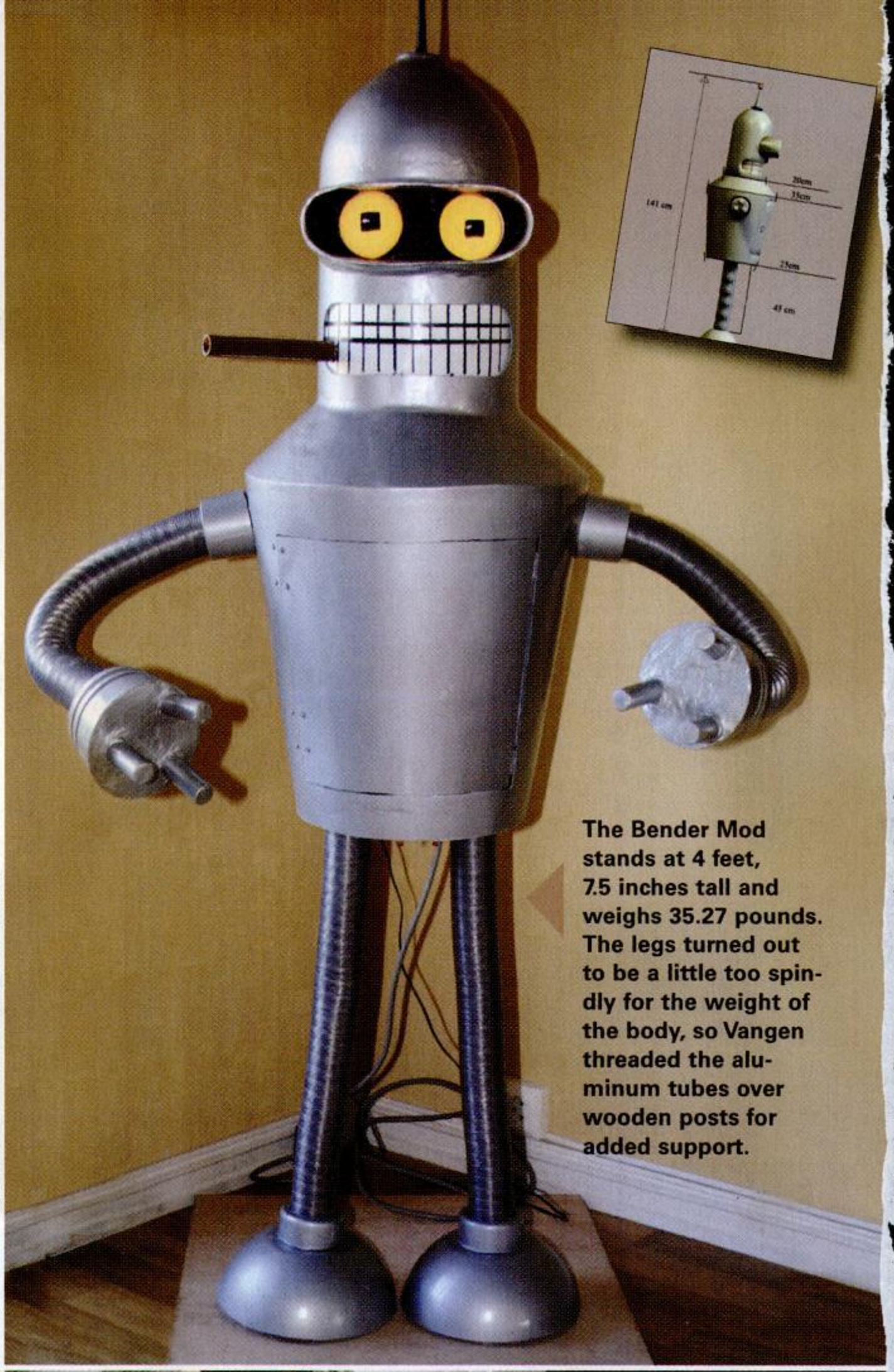
Rig of the Month

THIS MONTH: Jan Vangen's Bender Mod

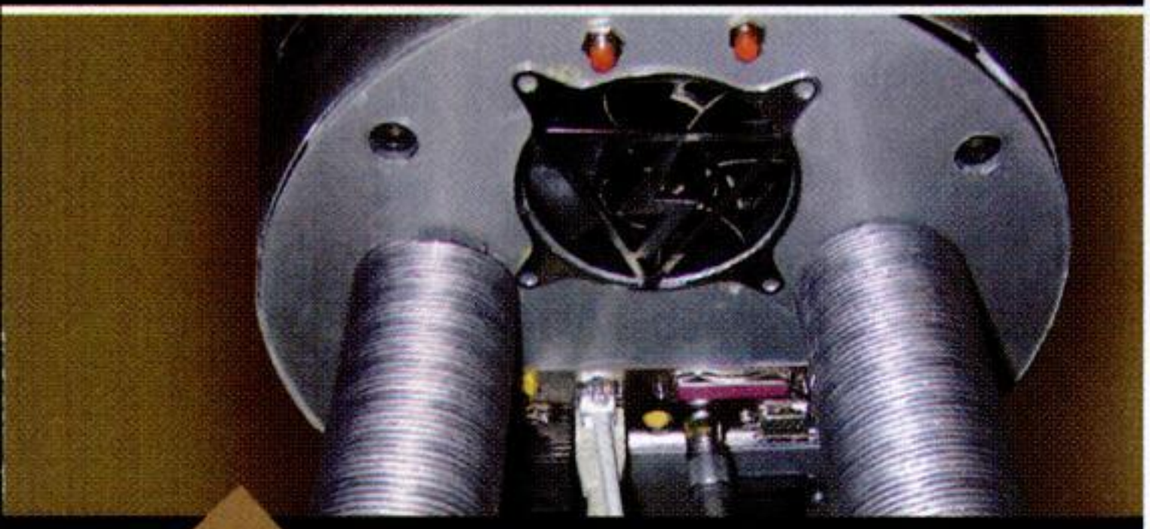
This month's Rig should look mighty familiar to fans of the sci-fi, animated TV series *Futurama*. Jan Vangen's Bender is a jaw-dropping replica of the cartoon's surly-yet-lovable robot of the same name.

The striking resemblance is the result of some serious ingenuity. Two halogen light bulbs fill the eye sockets, the top of the head and feet are fashioned from metal mixing bowels, and a helmet's plastic visor—painted white—makes for a fine set of choppers. These features and others round out a sheet-metal midsection that Vangen carefully measured, cut, rolled, and welded to proportion (with the help of some friends who have access to an engineering workshop). All the joints and crevices were filled with plastic steel, and the whole thing was sanded like mad and painted silver.

This Bender lives off a diet of optical discs, which are fed into a slot-load DVD ROM/CD burner perched behind his teeth.



The Bender Mod stands at 4 feet, 7.5 inches tall and weighs 35.27 pounds. The legs turned out to be a little too spindly for the weight of the body, so Vangen threaded the aluminum tubes over wooden posts for added support.



One button controls the PC's power, and the other button activates a "Bite my shiny metal ass" audio file, for a taste (so to speak) of the original Bender's personality.

By placing the mobo on its side, Vangen was able to funnel all cables out of the robot's rear.

Futurama fans will no doubt notice that this Bender's torso opens on the opposite side of the original's. As Vangen says, "this version of Bender is left-handed."

If you have a contender for Rig of the Month, e-mail **rig@maximumpc.com** with high-res digital pics and a 300-word write-up.

MAXIMUM PC (ISSN 1522-4279) is published monthly by Future Network USA, 150 North Hill Drive, Suite 40, Brisbane, CA 94005, USA. Periodical class postage paid in Brisbane, CA, and at additional mailing offices. Newsstand distribution is handled by Curtis Circulation Company. Basic subscription rates: one year (12 issues) US: $20; Canada: $26; Foreign: $42. Basic subscription rates "Deluxe" version (w/CD): one year (12 issues/12 CD-ROMs) U.S.: $30; Canada: $40; Foreign $56. US funds only. Canadian price includes postage and GST (GST#R128220688). Postmaster: Send changes of address to Maximum PC, P.O. Box 5159, Harlan, IA 51593-0659. Standard Mail enclosed in the following edition: C, C1, C2, C3. Ride-Along enclosed in the following editions: B, D, D1, D2, D3. Int'l Pub Mail# 0781029. Canada Post Publications Mail Agreement #40043631. Returns: 4960-2 Walker Road, Windsor ON N9A 6J3. For customer service, write Maximum PC, P.O. Box 5159, Harlan, IA 51593-0659; Maximum PC, 150 North Hill Drive, Brisbane, CA 94005. Future Network USA also publishes PC Gamer, PSM, MacAddict, and Official Xbox. Entire contents copyright 2003, Future Network USA. All rights reserved. Reproduction in whole or in part is prohibited. Future Network USA is not affiliated with the companies or products covered in Maximum PC. PRODUCED AND PRINTED IN THE UNITED STATES OF AMERICA.

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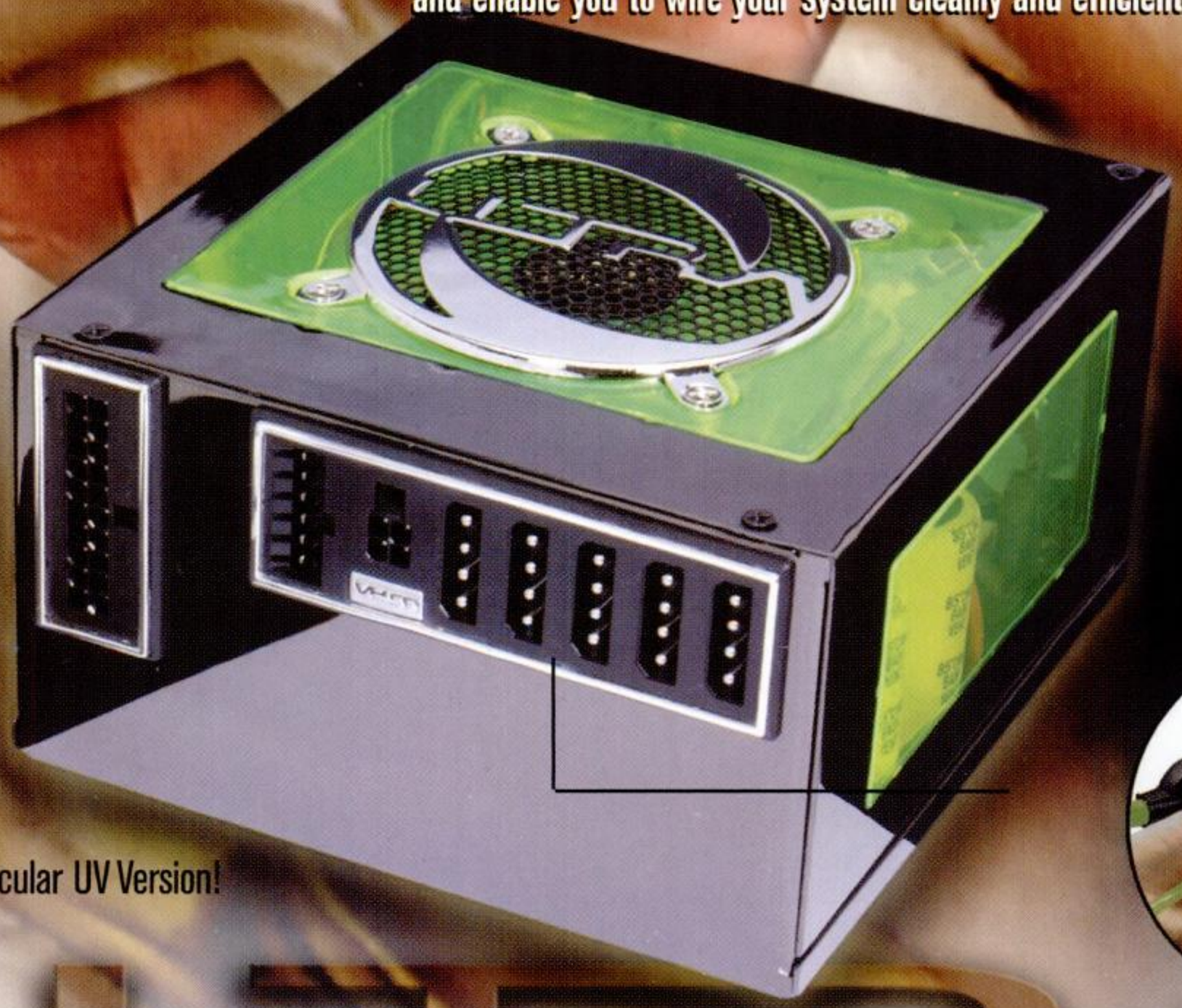

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